AMERICAN BEE JOURNAL

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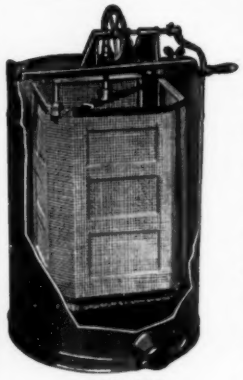

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- Strong reinforced construction.
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Entire top gearing lifts off to easily pour in cappings. Whirling a few minutes drys them. Reel basket quickly lifted out to dump dried cappings and clean.

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DEALERS—Write for your supply of Standard Folders with your name imprinted.

For 68 years making honest goods and giving fair, square treatment.

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PRICES REDUCED

AFTER MAY 10th

	2-lb.	3-lb.
Package with caged queen	$1.70	$2.25
Package with **loose** queen	1.85	2.40
Nuclei one frame	2.00	2.55

Let us have your order for prompt, satisfactory shipments.

We have those dark IMPORTED ITALIANS that store more surplus honey, giving you a better profit on your investment.

Direct express connections.

ROSSMAN & LONG
Box 133 MOULTRIE, GA.

KOEHNEN'S

Package Bees and Queens

30 years' experience in large scale commercial beekeeping assures you dependable quality and service.

2-lb. package with queen, $2.00
3-lb. package with queen, 2.50
Queens, each 60

Write for quantity discounts giving your requirements.

KOEHNEN APIARIES
GLENN, CALIFORNIA

There is no substitute for . . .

Lotz Sections!

BEST IN EVERY WAY

Top Quality Material . . Glossy Polish . . Smooth Dovetails . . Oval-V-Grooves . . Accurate Dimensions . . Fine Workmanship . . Reasonable Prices . .

These important features are demanded by every beekeeper. Any size section can be furnished. Why not place your order at once?

Write for prices on quantities and special size sections, and also your free 1940 catalog.

August Lotz Company
BOYD, WISCONSIN

AMERICAN BEE JOURNAL

EDITORS: G. H. CALE, FRANK C. PELLETT, M. G. DADANT, J. C. DADANT

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Cover Picture— Open-air Colony

This swarm evidently found a place much to its liking and decided to set up housekeeping. Alvord L. Bishop, of Hiram, Ohio, made this photograph of the colony hanging in an apple tree. The time is probably late fall, the weather cool. The summer working force seems still to be on hand, though the bees have retreated from the outer combs.

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• NEXT MONTH

E. L. Sechrist, whose work you have been following in this magazine for several years, writes SELECTIVE BREEDING AND REQUEENING .... PROBLEMS OF THE PACKAGE SHIPPER is the title of an article by Frank C. Pellett on the work of Warren Whitcomb and Everett Oertel, at the Southern States Field Station, to overcome the difficulties of the package shipper .... V. G. Milum investigates the WHY of crawling bees.

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GARON'S

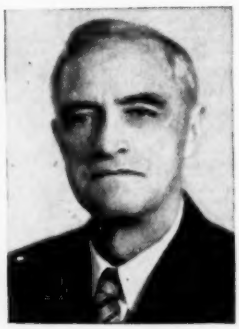
3-Band Progeny Test Italian Bees and Queens

Use our Renowned Quality-Bred Progeny Test Bees to beat the lateness of this spring. Our prices place Record-Breaking Quality within reach of all. (See our previous ads for detail.)

2-lb. packages with queen, $1.75 3-lb. packages with queen, $2.25
Queens, 45c each. For 100 or more, 40c each.

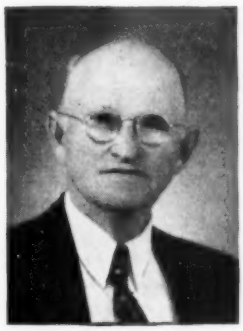
GARON BEE COMPANY, Donaldsonville, La., U. S. A.

Lifetime Beekeepers Endorse "LIFETIME" Extractors



L. A. COBLENTZ

JULIA A. WALLER



ENOS J. BAKER

Three widely known and successful beekeepers operating under the name of C. B. W. Honey Company, Red Lake Falls, Minnesota, give you their experience with our "LIFETIME" Extractors.

"From many years of beekeeping will say we have used various makes of Extractors. The "Lifetime" is the best we have ever tried. Do not need to enumerate its good qualities—it has all the good qualities with none of the bad.

The second day it was used, one man and a boy extracted 5,400 pounds of honey, and the combs were as nearly dry as they could be, with not a broken or damaged comb. Several of the big honey producers near us came to look at it, and admired the work it did, and though they have nearly new machines, they expressed themselves as wanting a "Lifetime Extractor."

(Signed) C. B. W. Honey Company,
Red Lake Falls, Minnesota.

LICENSED MANUFACTURERS OF BRAND CAPPING MELTERS WEST OF THE MISSISSIPPI.
MANUFACTURERS OF SUPERIOR WIRED FOUNDATION.

SUPERIOR HONEY COMPANY

Ogden, Utah — Idaho Falls, Idaho — Los Angeles, California — Denver, Colorado

BRAZOS VALLEY APIARIES
CAMERON, TEXAS

PACKAGE BEES

BRAZOS VALLEY APIARIES
CAMERON, TEXAS

Your choice of queens

ITALIAN :: CAUCASIAN :: CARNIOLAN

Queens reared with care from pure stock. We send only young bees that do not supersede their queens. (See Mr. Sander's remarks A. B. J. page 122 of March 1939, also Mr. Latham's in April, page 183). Extensive experience in loading trucks quickly. A quarter of a century of efficient service in the same locality is our record. My motto through the years: I will expect to do business with you again.

	1-9	10-49	50 or more
2-lb. package bees with young select laying queen	$2.25	$2.00	$1.75
3-lb. package bees with young select laying queen	2.90	2.60	2.35

"YOU CAN PAY MORE BUT YOU CANNOT GET BETTER BEES OR FAIRER TREATMENT"

H. E. GRAHAM -:- -:- CAMERON, TEXAS

Get Busy Now

All good beekeepers understand the importance of using DADANT'S WIRED FOUNDATION with LEWIS FRAMES to build up strong colonies.

LEWIS and DADANT SUPPLIES will help you start the season right, with the best of equipment.

We carry a complete stock at this point. Write us now for quotations on your season's needs.

THE BROCK STORE
CARLOT DISTRIBUTOR
DECATUR, INDIANA

Shaw's 3-Band Italian Bees and Queens

As you scan these pages looking for bargains in bees and queens and chance to read this ad, we have this to say:

For the past 18 years we have been supplying the northern honey producers his needs in bees and queens, and it is a pleasure to look over our books and see the names of customers that have been with us every season since we began shipping.

The Reason

He gets as good package of young bees headed with as good young queen as is possible to be produced by a breeder that loves the business.

Give us that order and we will not disappoint you.

Prices—2-lb. with queen $1.60; 3-lb. with queen $2.20; Queens 50c each.

A. E. SHAW, Shannon, Miss.

ITALIAN QUEENS AND BEES
ALSO CAUCASIAN QUEENS FOR 1940.
Booking orders now. Write for prices.
R. E. LaBARRE
Box 172, Shasta County, Cottonwood, Calif.

'Save Money'

See our new catalog of low prices on QUALITY SUPPLIES.

If you have not received our new 1940 catalog, write for your free copy.

Write for prices on large quantities.

A. H. RUSCH & SON CO.
REEDSVILLE, WIS.

RESULTS
COUNT MOST

Take our AIRMAIL QUEEN SERVICE, in a special, light cage, our queens go by mailplane at unbelievable speeds to any part of the United States or Canada, **at no extra cost to you.** And these queens and the packages of bees they head are raised under conditions ideal for high grade stock. At picturesque Picayune, little artificial stimulation is needed so both bees and queens are raised under natural conditions.

Breeding stock has been selected for prolificness and honey production; for gentleness and appearance. Both queen cells and virgins are rigidly culled and only the best retained. Four mainline express and mail trains a day carry your package bees quickly to you. Four per cent extra queens with package orders for surety of needed replacements.

Queens, Airmail postpaid . . . $ .50, each
2-Pound Package and Queen . . 1.90, each
10 or more packages . . 1.65, each
3-Pound Package and Queen . . 2.55, each
8 or more packages . . . 2.17, each
(Queenless package, subtract price of queen.)

Tested Queen, $2.00, each

FOR LARGER QUANTITIES, PLEASE WRITE.

These prices subject to change prior to June 1st. A card or letter will put you on our mailing list.

DANIELS APIARIES PICAYUNE, MISS.
"QUALITY OUR FIRST CONSIDERATION"

BETTER BRED QUEENS
THREE-BANDED ITALIANS

Bees, Bees, Bees, we have plenty of them. Can fill your orders promptly. Don't hesitate to send them to us.

2-lb. pkg. with queen $1.75
3-lb. pkg. with queen $2.25
4-lb. pkg. with queen $2.75
Queens, 55c each

Prices after May 15th; 25c less on packages. Queens 35c ea., or 3 for $1.00.

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Farmers Supply Company, Durango
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Otis E. Adcock, Route No. 2, Box 65, Rocky Ford

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Kaneville Grain Supply Company, Kaneville
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Brown, Lynch, Scott Company, Macomb
Brown, Lynch, Scott Company, Sterling
Brown, Lynch, Scott Company, Canton

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Rodeman Supply Company, 413 West Main St., Jefferson City
Neosho Seed Company, Neosho
J. B. McNeely, Route No. 1, Granby
L. A. Schott & Company, Benton
E. G. Zollicker, 300 North Main Street, Windsor
J. Patton Ryals, Route No. 2, Huntsville
Irving E. Long, Marceline
Dr. E. L. Crowson, Box 94, Pickering

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H. C. DADANT

OLD AND NEW IN BEEKEEPING

TODAY'S apiary practice seems to have freed itself from old methods. Although some of the original principles of management laid down by the old masters will always stand as fundamentals, in a general way contemporary practice has developed according to requirements for honey production on a large scale. To think progressively is often easier than to put those thoughts into action, and the beekeeper often persists in pursuing long-tried methods which have proved to be only partially successful or which, because of climatic and seasonal variation, have ceased to be effective.

In the locality with which I am most familiar, there used to be, one year with another, a fairly dependable fall flow. Drainage of swamps and the cultivation of marginal lands have caused these flows to cease. It is no longer possible to crowd that last forty pounds of heartsease and Spanish needle honey into the brood nest. In some localities in which changes of this sort have occurred, no new problem presents itself, because the flow from fall flowers may have been replaced by a flow from late-blooming sweet clover, or some other cultivated crop. But in many cases it has been necessary to move apiaries to other locations where a fall flow is available, to feed heavily, or to save a super of honey for winter. After all, if honey is not forced into the brood nest, why remove the last super of it, unless honey prices justify feeding the colony later on or replacing it in the spring?

Wintering is not what it formerly was. Oh, to be sure we still leave an adequate cluster and a good queen, with enough stores to tide them over till spring; but ideas about protection have changed in many quarters. Natural windbreaks are now difficult to find, though the necessity for them is still recognized. At present, various artificial windbreaks are devised, and these often provide the only shelter available. The heavy packing case has generally been discarded in favor of the tar paper wrap or a similar light outside packing. Upward ventilation remains vital to meet the emergencies of our varying winters though it does not necessarily imply the use of the top entrance.

Everyone knows that bee breeding is an interesting topic nowadays. Scientists are doing a great deal of preliminary probing and are finding out what may be accomplished to perfect and fix certain desirable characteristics, though the widespread improvement of bees is not yet to be thought of. A queen breeder recently remarked that as long as price is the main consideration of buyers, the breeder cannot justify the cost of isolated mating yards to propagate improved strains. For years, individual beekeepers have reared queens from colonies of outstanding honey producing ability. At the same time, they have given little care to provide drone stock from equally desirable colonies.

It is safe to say that in beekeeping, as in most everything else, the most far-reaching change has been brought about by increased transportation facilities. The outyard system of management and the production of honey in large quantities have not only simplified old practices but have reached outside the industry and have brought their limited influence to bear in the field of scientific research. The requirements of commercial honey producers have provoked investigation in a number of fields relating to their needs. The establishment within the last two years of another of the regional laboratories, a division of the United States Bee Culture Laboratory, which engaged at once in a study of the supersedure of queens is an example of how commercial beekeeping is influencing scientific work. The study of American foulbrood resistance, now a piece of investigation proceeding under Federal auspices, began as a state project; it is perhaps the most significant

(Please turn to Page 233)

Package Bees & Queens

Italian and Caucasian

We can furnish your requirements at any time throughout the season. Reduced prices after May 25th.

DAVIS BROS.

COURTLAND, ❖ ❖ CALIFORNIA

SELECT ITALIAN PACKAGE BEES & QUEENS

Improved stock with maximum crops back of them. Only queens making large yields and meeting other requirements as **gentleness, non-swarming, size** and **hardiness** are carried south to be used as breeders.

Prompt Service—No Drones—Young Bees—Health Certificate—Safe Arrival and Satisfaction Guaranteed.

Low May Prices	2-lb. with Queen	3-lb. with Queen	Select Young Queen
1- 9	$1.90	$2.50	
10-49	1.80	2.40	
50 or over	1.65	2.25	60c

R. B. HERIER ∴ ∴ **VALDOSTA, GA., U. S. A.**

STOP LISTEN LOOK

STOP wasting money on inferior packages.

LOOK at the results others are getting from Cutts' packages.

LISTEN to reason, only good quality packages pay profits. Poor packages are expensive at any price.

	2-lbs.	3-lbs.	Untested queens
1- 25	$2.10	$2.75	.70
25-100	1.95	2.60	.65
100-up	1.85	2.45	.60

J. M. Cutts & Sons, R. 1, Montgomery, Ala.

Southern Mississippi Italian Bees & Queens

FINEST QUALITY—FULL WEIGHT—FAST SERVICE—
STATE INSPECTED—NO DISEASE—SATISFACTION GUARANTEED.

Queens, Untested . . $ .50 Tested, . . $1.00
2-lb. pkg. with queen $1.75 3-lb. pkg. with queen $2.25

LUCEDALE APIARIES :: :: **LUCEDALE, MISSISSIPPI**

MY CARNIOLANS SATISFY BETTER

Jan Strgar Strain. Gentler bees, whiter combs, more honey. Satisfaction guaranteed. Queens introduced free.

Ephardt's Honey Farms, Torras, La.

Package Type

Combless 2-lb. $1.95; 3-lb. $2.45
M. Dadant Comb, 2-lb. $2.50; 3-lb. $3.00
Standard Comb, 2-lb. $2.00; 3-lb. $2.50
Extra queens 50c ea.

BLUE RIBBON
PACKAGE BEES

2-lb. packages	$2.00
3-lb. packages	2.45
Queens	.65

THOS. C. BURLESON
COLUSA, CALIF.

Sturdy Italians from Selected Stock

The sturdiness of our bees were tested this spring. In spite of the fact that pound after pound was shaken, the hives are still overflowing with young bees.

We are lowering our prices, not because of the panic for orders, but we feel we can supply the first class Italians at these prices. Send in your order and rest assured it will receive prompt and efficient attention.

2-lbs. with queen	$1.90
3-lbs. with queen	2.35
1 queen	.45

Hybrid Combless

2-lbs. with Italian queen	$1.50
3-lbs. with Italian queen	1.90

NEAL'S APIARIES, HAMBURG, LA.

QUEENS

Sold out on packages. Have plenty of Leather Colored Italian queens bred from northern stock. Untested queens **45c** each. Mr. O. D. Rivers, formerly of Paris, Texas, is in charge of the queen yards.

Walter Orange & Son

Ocean Springs, Miss. Ruthton, Minn.

THRIFTY BEES

Combless Packages and Queens

New Low Prices. Prompt Shipment.

Full weight packages of THRIFTY three-banded Italian Bees.

Write or wire your requirements. We pay telegraphic charges on orders for 25 or more packages or queens.

W. J. FOREHAND & SONS
Fort Deposit, Alabama, U. S. A.
Breeders Since 1892

Need Package Bees & Queens?

We will trade at attractive prices for your honey and beeswax. Write us.

THE FRED W. MUTH CO.
229 WALNUT ST CINCINNATI, O

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EDITORIAL

RELEASE OF DISEASE RESISTANT STOCK

ELSEWHERE in this magazine appears the announcement of a limited release of disease resistant stock. It should be noted that only a few queens are available and they are to be placed with the State Agricultural Experiment Stations or the Departments of Agriculture for such use as they see fit.

While some strains of these bees have shown marked ability to recover from disease there is no assurance that daughters of these queens will make the same good record. It is accordingly advised that resistant stock be used as a means of prevention of the spread of disease rather than as a cure. If the beekeeper will continue to burn diseased colonies as they appear and then requeen other colonies in the vicinity with resistant queens it is expected that a reduction in the amount of disease will result.

We understand that the Iowa Beekeepers Association will endeavor to secure breeding stock from which to rear queens for its members. Perhaps other associations may have similar plans. The small amount of stock available does not yet make possible any general distribution. The present release is intended to encourage further test to determine how far the character of resistance can be depended upon under ordinary apiary conditions.

♦

TRADE BARRIERS

SOME of our readers are learning from personal experience of the workings of the barriers between the states. The man who takes his truck South to bring home a load of package bees finds a different set of rules with each state that he enters. In some he finds it necessary to get a special license and pay a mileage tax.

One man reported with great indignation the fact that he bought some honey for family use when he visited California only to have it confiscated when he crossed the state line into Arizona, on his way back to Missouri.

In many cases such regulations fail of the object which they were designed to serve and in addition work a great hardship on the individual who tries to do business outside his home community.

♦

TEN MILLION DOLLARS A DAY

THE public has not yet been aroused to the danger that confronts the nation because of the continued profligate spending on the part of the government. When it is realized that spending exceeds income by something like ten million dollars per day the question arises as to how it can ever be paid.

Ten million dollars is a great deal of money. So much in fact that it represents a very large part of the total income of all the beekeepers of the nation put together. If our total income is only sufficient to meet the deficit of the government for one day just who is to pay running expenses in the future and retire this vast accumulation of debt at the same time?

America is a rich nation but we cannot continue to spend borrowed money indefinitely. We are all familiar with cases where a rich inheritance has been quickly squandered by spendthrift beneficiaries. As a group we are subject to the same limitations as confront us as individuals. If we spend more than our income disaster will overtake us. The bigger the spree the worse the headache that follows.

When taking stock of your personal relationship to the government just remember that the expenses have exceeded the income for *today only* in an amount very nearly equal to the total income of all the honey producers of America for a full year. Also bear in mind that the same thing happens every day, week after week and month after month and try to see what the final result will be if this policy is long continued.

MINERALS IN HONEY

THE report of Dr. H. A. Schuette concerning the presence of iron, copper and manganese in dark honey appears to have attracted very wide attention. He is quoted as saying that iron is important nutritionally because of its relation to the coloring matter of the blood and that copper in minute amounts has been found to be of the greatest importance in that it seems to unlock the therapeutic powers of iron in restoring the hemoglobin content of the blood of patients afflicted with anemia.

With distinguished medical authority pointing to honey as the proper source of minerals needed in the diet it is not surprising to hear of increased demand for dark honey in some markets.

♦

PLANTING FOR HONEY

MORE than forty years ago, the late Frank Benton foresaw the time when it would be necessary to plant crops to provide bee pasture to insure success in older sections of the country. He mentioned a number of plants worthy of consideration for such a purpose. It has generally been assumed that it would not pay to plant for bee pasture alone but no very careful investigation of the possibility in that direction has ever been made.

Now that so much effort is made to remove marginal lands from ordinary cultivation there is a chance that in some neighborhoods such use on the part of the beekeeper may be advisable. Certainly many beemen have profited by sowing sweet clover along the roadsides and in waste places.

Recently the writer drove over an area of hundreds of square miles where a fine stand of timber had been removed and the young trees destroyed. At present it is little more than a desolate waste with nothing in sight to support even a meagre population. If plants which yield nectar freely could be generally established in that area it would provide pasture for large numbers of bees and certainly would be no detriment to the present owners.

It is not to be expected that it will pay to use highly productive land for planting for bee pasture alone but the beekeeper who is also a landowner may well look for crops which are the source of nectar for the bees and at the same time useful for other purposes also. Certain drug plants are worthy of consideration for such combined utilization.

♦

SOYBEANS

THE great expansion in acreage of soybeans is replacing legumes which are better honey plants to a large extent. More soybeans are grown each year and the large number of new markets which are opening for soy products indicates a still greater increase in the years ahead.

Ford's prophecy that the cows would ultimately disappear and that milk products would be produced in the laboratory no longer seems quite so fantastic. Last year sixty million pounds of soybean oil were used in the manufacture of margarin, a well-known substitute for butter. Now one can buy a good imitation of meat made from this bean as well as milk and cheese from the same source.

Millions of pounds of soybean oil are used in the making of salad oils and in shortening. Here again appears a serious competitor for lard for housewives appear to like this new cooking oil.

So many new uses are being developed that the expanding market readily consumes the increased acreage of the crop that is grown from year to year. Industry takes enormous quantities of soybean products for use in the making of soap, glycerine, paint, varnish, linoleum, plastics and glue to name only a few of the many outlets.

The beekeeper is naturally concerned when a forage plant which is a dependable source of nectar is replaced by one which yields little or no honey. The soybean appears to be self fertile and to yield but little nectar under ordinary conditions. There are dozens of varieties in cultivation and hundreds are known to the seed trade.

Since an occasional crop of honey is apparently harvested from soybeans there is a possibility that some varieties yield more nectar than others. If so it is highly important for the beemen to know which varieties are best. Perhaps selection of individual plants which yield nectar may increase the yield. The prosperity of many a beeman depends upon the outcome.

SOME METHODS OF SWARM CONTROL ON VANCOUVER ISLAND

By EDGAR SCHOLES

WHATEVER brings the bee to the point of swarming, it is apparent to every observer that there are contributing factors that everyone should notice. Swarming varies as the locality varies. Generally, it is accepted that bees are more apt to swarm when the flow is light and of long duration, as it is in our part of British Columbia, rather than where flows are short, heavy and rapid. Or, in other words, when a heavy flow keeps the bees occupied, they will not be so inclined to swarm.

No matter what the location, swarming is undoubtedly a natural phase of the life of the bee. The day of the swarm is possibly the one time in the bee's existence when she thoroughly enjoys herself and sings with a different note. If I could manage it without loss, I would like to allow my colonies this one day. However, it is a ruinous undertaking and always means the risk of the crop.

Factors contributing to swarming in the main narrow down to a very few important ones: overcrowding, age of queens, heat, excess of drones. And of them all, the most important is overcrowding.

I think this matter of overcrowding cannot be overstressed and that it has the most potent influence in swarming. Sechrist has often used the phrase "a clear brood nest." It fits so well with my belief, I am trying to keep the phrase in mind: trying to see that my brood nests are always clear, that they carry no unnecessary combs of capped honey during the build-up period, and that the queen has plenty of empty cells at all times in which to lay close to the expanding brood nest. This is all simple and it begins with dandelion and fruit bloom.

As bees expand in early spring, it will often be found that at least two of the outside combs are loaded with honey, and since the bees, as a rule, have all the honey they need for their immediate use in the corners of the brood and pollen combs, these outside combs may be removed and replaced with empty drawn combs, at either side of the brood (not at the outside).

When the bees cover all the combs, a second body may be added, but the procedure just outlined should be followed right through the build-up period.

Many beekeepers requeen each year. I think it is a mistake to make this a rigid rule. Often a wonderful queen is destroyed and a younger, less vigorous one, takes her place. Unless we practice marking or clipping queens, supersedure often takes place without our knowledge.

Nevertheless, it is true that a colony headed by a young prolific queen is less likely to get swarming fever than one with an old, failing queen. Even with the young queen, however, overcrowding must be guarded against with never ceasing vigilance.

Overheating colonies in our part of the country (British Columbia) is usually due to overcrowding, and when this is taken care of I have not noticed any apparent advantage in raising the hive from the floor board to admit extra air. When bees cluster outside colonies here, it is usually because they do not have enough room, not because of temperature.

The number of drones in a colony must be kept small by providing all worker comb in the brood nest and removing combs that have drone. Whatever we do, the bees will raise drones and will frequently tear down good worker comb to obtain drone cells.

I am not certain that the excess of drones hastens swarming preparations. I have noted colonies with thousands of drones, and even with old queens that did not build swarm cells.

Nevertheless, for our own sake, we only need enough drones to keep the bees content. If drones are trapped from a colony, dispose of them carefully. Frequently bees become really ferocious on missing the drones. As an instance, a season or two back, I trapped drones, dumping them on the lawn some distance from the colony. It was expected they would die during a cool night. The next day the bees were busy feeding them and stinging any one in range; nor did they quiet down until the drones were finally disposed of.

The prevention of swarming is better than its cure. We, who produce extracted honey, have an easier time than those who produce comb honey. Dr. Miller, that great old bee-

Bees in the fireweed country at the lower end of Vancouver Island. The men in the foreground are examining hives which have been damaged by a bear.

man, who, in only an average district, using eight frame hives, took tremendous crops and was an expert of experts, always added a second brood chamber when his bees expanded to the outside combs of the first one. He always contracted the two chamber hives down to one again when the flow started. Yet, in such crowded hives, the tendency to swarm must always be greater than it is in extracted honey production.

One of the commonest and most widely practiced control methods is the killing of queen cells. If there were some sure method that would render this unnecessary, a lot of time would be saved. With a clear brood nest, and the use of the Demaree plan, or one of its variations, this queen cell cutting is enormously reduced. (See the Demaree plan of swarm control in this issue, page 224. Editor.)

Some beekeepers remove the queen of the colony for ten days, replacing her then, or introducing a young laying queen. In this case, ten or more days of egg laying are lost. British Columbia Bulletin 92, "Bee Culture in British Columbia," gives the following method, called the Rauchfuss plan:

If colonies are wintered in a single story, a second one is given as soon as more room is needed. At the beginning of the main flow, the upper story is lifted off, a queen excluder is placed on top of the lower brood chamber and an extracting super put in with a second queen excluder on top of that, and the former second story of the original colony set on top. The entire apiary is treated in this way.

Nine or ten days later a glance into the top body will tell whether the queen is there or below. If she is above, this body is set off on a separate bottom board and supplied with a cover. If there are no eggs or larvae in the top body, the queen, of course, is in the lower one, so this lower one is taken away and the upper one put in its place. Thus the queen is moved without having to be found.

The queen cells that will be present in the now lower hive body are then destroyed and a young laying queen introduced; or one queen cell is left from which a virgin emerges to mate and requeen the colony. This as a rule settles swarming for the season and at the same time insures requeening.

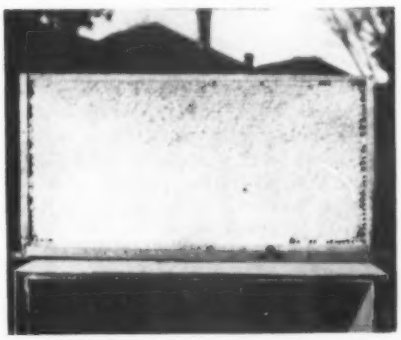
Still another practice in comb honey production is known as the shook swarm, swarming of the colony at the convenience of the beekeeper. It is 98 per cent effective but has some drawbacks.

Just before the bees are ready to swarm, the brood chamber is removed and a body of empty combs or foundation put in its place. Each comb of bees is then shaken at the entrance of the new hive making sure the queen is with the bees. The old body with combs of brood and remaining bees is set to one side. In a few weeks, when all the brood has emerged in it, the combs are again shaken in front of the new hive and the old body removed. This requires a lot of work. Also, if the weather is bad, there is the risk of chilled brood.

Do what we may, however, it is frequent that a queen cell is missed somewhere, or something goes wrong, and one day that swarm comes out, often on Sunday.

Most of us here hive the swarm which issues on foundation because the bees are in the best condition to draw combs, unless we prefer to return the swarm to the parent hive and requeen. If the swarm is hived on foundation, the combs will be drawn ever so much better, if we place an entirely empty super under the body of foundation, so the bees may cluster under the frames and make a better job at the bottom bars when they make new comb.

It is my practice in hiving swarms to put the swarm in a new hive on the parent stand. The parent hive is placed to one side with its entrance facing the old direction at an angle of forty-five degrees. This sends flying bees into the old location to swell the swarm.



A capped comb of fireweed honey.

After a week, the old hive is again turned to a complete right angle, the manipulation resulting in weakening the old hive so much that afterswarms are rarely sent out. In a few weeks' time both hives may be again united and the old queen destroyed if desired. No bees are lost and the bees will produce a good surplus.

The Demaree plan or a partial Demaree has been more effective generally in controlling swarming in extracted honey production than any other method. It should be borne in mind that what has been said here applies to this locality. The suggestions may also be used in parts of Oregon and Washington where a long build-up period is followed by a prolonged, yet not heavy, flow. One cannot write on this subject for a whole continent because of different conditions causing different reactions.

Our bees fly more or less every month of the year, Nectar is often available at a time when apiaries in the East have been wintering for months. On November 25, 1936, the laurustinus was in full bloom and the bees were on those shrubs in thousands. As I write this, February 23, my bees are bringing in both nectar and pollen. Compare this with a location where bees do not fly before the middle of May, and yet are working clover before June is through.

It has been suggested that if combs of honey are found in the brood nest, the queen must be failing. That may be a fact for some localities, yet it does not apply here. We have to meet a peculiar set of conditions in British Columbia, and those of us who go to the fireweed in July know how hard it is to finish one flow of long duration and have our bees in condition for an infinitely larger fall flow when the bees are worn out. Sometimes it is advisable to requeen the colonies as is often done before going to the heather in Great Britain. The second flow also has an effect on swarming and really gives us two swarm seasons, each differing from the other in many particulars and requiring different modes of treatment.

Victoria, British Columbia.

5,000 FLORIDIANS IN BEEKEEPING

Secretary W. H. Williamson, of the Florida Association takes issue with the press article on Mr. DeMuth of New York and his bees, leaving the Florida ones at the bat.

"Florida bees are taking no back seat for their buzzing Yankee cousins, brought into the sunshine state each winter to escape the cold weather. The Cracker bees are in an exceptionally fine condition despite the coldest weather in several years, already have an abundant supply of pollen and are gathering additional quantities.

"Taking issue with the recent statement numbering Florida's bee population at 42,000 colonies, Secretary Williamson reports department records showing 150,000 colonies in Florida owned by 5,000 persons engaged in beekeeping, an investment of approximately $1,000,000, and a honey, wax, queen and package bee return of over $500,000."

HOW TO USE RESISTANT STOCK

By G. H. CALE

HONEYBEES resistant to American foulbrood are now an established fact in beekeeping. Many minds, for many years, have toiled with the idea that there might be such bees. Probably any historical credit for what has been accomplished so far would not belong to any one person or any one group.

Years ago, we, ourselves, began experiments to find out what we could about it. After several years of effort, we became convinced of the fact that not all bees behaved the same toward American foulbrood and that some bees were highly resistant to it. Having proceeded this far, we thought that the problem would fare better in the hands of some established institution. The state of Iowa agreed to cooperate and a substation was established at Atlantic, Iowa, under the direction of Dr. O. W. Park, with the cooperation of Frank C. Pellett, of American Bee Journal. This yard at Pellett Gardens proceeded several years with a carefully established research technique to determine if there were bees resistant to American foulbrood and if the resistance could be carried from generation to generation. Both points were proved positive.

Finally, the United States Department of Agriculture, through the Office of Bee Culture of the Bureau of Entomology and Plant Quarantine, entered the experiment at the invitation of the Iowa Experiment Station until now several states and several laboratories, and a number of highly trained men, are spending their time and thought and energy in finding out all that possibly can be found out about the very essential thing, resistance to American foulbrood.

Experiments have gone to the point where it has been thought best to release this stock to other states that may be interested. The announcement on the opposite page gives the detail of the procedure. Any state may obtain resistant stock and do with it as it wishes, continue further research, or make it available to beekeepers. If you are interested, write to your state experiment station or your state inspector.

What ought you to expect from the stock when you get it? Many beekeepers think that by buying queens of resistant stock and using them in their apiaries, they will never have any disease. This is not true. Resistance varies with individual queens. The stock has not yet been made uniform. It varies in honey production and other habits. Some beekeepers may not find it satisfactory from that standpoint. Some queens of resistant stock will produce daughter queens, all of which have a high percentage of resistance; others will produce daughters in which the resistance varies considerably. It is quite likely that absolute resistance cannot be depended on, at least for a long time to come.

It is surprising, however, that resistant stock once in use seems to pass the factor of resistance through successive supersedures until finally the factor is broken down sufficiently to allow disease to come back in the apiary. This is highly important. Once a yard is requeened with resistant stock, it is probable that it will maintain its resistance for several years.

However, if a yard, we'll say, of 100 colonies, is requeened with 100 resistant queens, that does not necessarily mean that there will be 100 colonies that will never have disease or show any signs of it. It is safe to say that whenever disease is found in an apiary, the only thing to do is to burn it up. Therefore, if an inspector finds disease, the beekeeper, himself, should proceed as he always has and burn it up. If he uses resistant stock and follows this plan, he is not setting up any new procedure, but is simply bringing the amount of disease to a low point.

Many inspectors have voiced the fear that beekeepers will insist on keeping colonies with disease just because they have bought queens supposed to be resistant. They may do so, but they should not do so. It is a mistake. It is also a mistake to requeen diseased colonies with resistant stock, expecting them to be cleaned up. Even though such bees might eventually succeed in removing the major part of disease, they will do so at the expense of other healthy colonies and even at the expense of neighboring apiaries, because the bees in carrying the material from the cells will store it in front of the hives where other bees pick it up, and so spread disease from hive to hive and from yard to yard. This practice is not to be recommended.

The object of the use of resistant stock is not to set up a barrier to the inspection service, but to aid it. Simply and briefly, if a beekeeper maintains resistant stock, burns diseased colonies, either when he or the inspector finds them, he is in no different position than he has been except in one respect. The amount of disease will be reduced to a minimum, which is compatible with practice. All there is in the distribution of resistant, stock, therefore, is to set up this check against the disasters which we have been experiencing so often in the past.

It is not thought that resistant stock will remain so thoroughly resistant that it will control disease to the point of extinction. That is too much to be hoped for. That it will reduce resistance, however, to a low figure, I am satisfied can be depended on. Resistance apparently is a dominant factor, but we do not know whether it is a physiological factor or whether it is a behavior factor. It may be both. There is evidence that it is.

There is no reason why the beekeeper, because he uses such stock, should be impelled to become a self-constituted research expert. On the other hand, the inspectors should welcome distribution of the stock because with it he can exercise control which all the appropriations of all the states since the beginning of inspection have been unable to bring about. I am anxious to see some wide awake inspector using resistant stock in a clean-up area. Believe me, he will succeed.

I can give case histories of the use of this stock which would surprise you. One, however, will serve. In a pickup yard which has always been bothered with disease, in large or small amounts, colonies once requeened with this stock, have been found to remain clean indefinitely, almost to the point of complete disappearance of American foulbrood. This should be sufficient to bring hopes to the commercial beekeeper.

We expect that as time goes on further breeding and experiments will result in a stock not only highly resistant to American foulbrood, but also a stock highly favorable for honey production, behavior, wintering and all those factors which we now consider to be necessary for good bees. When this time comes, if some agency is established per-

manently to test resistance in stock offered by queen breeders, or any agency interested in the distribution of the stock, we should be on the high road to the elimination of this scourge from American beekeeping.

Finally, our advice to those who use resistant stock will be to keep yards clean with the best resistant stock which may be obtained, and to burn up disease when found. If the beekeeper will do this and do it repeatedly, he will almost eliminate the trouble. There will be years when no disease will appear whatever. There will be years when, through supersedure or neglect, disease will return. A good beekeeper, however, will not let enough time go by to lose the advantage he has gained. Resistance is a tool to use against disease. Cooperation with the intelligent beekeeper and the intelligent inspector, will, in a short time, leave a comparatively clean industry.

Hamilton, Illinois.

♦

THE PERFECT QUEEN?

There is a vast difference between the fanciful and the practical. A queen whose progeny are capable of producing a five hundred pound crop of honey in a season is unusual, but not impossible, for I have known it to be done. But it was not altogether to the credit of the queen. Weather, pasture, heavy long flow, and other factors, were responsible in proportion. Under less favorable circumstances, the same queen could not be expected to roll up such a record.

To be sure, there is a great difference in queens. How then are we to produce a strain of queens whose progeny will perform alike under all conditions? It simply cannot be done. But if it could be done by following the suggestions of F. B. Paddock's article, "Improved Stock," in American Bee Journal for January, who could stand the expenditure of time and money it would require to get even a partial answer to his questionnaire? It is well known, as Mr. Paddock says, that some bees are better comb honey producers than others. No one seems to know why this is so. It may be the strain; it may not. If our experience in beekeeping counts for anything, I should say that a good queen, with good full drawn combs and plenty of room for expansion, attended by a know-your-business beeman, located in a good nectar producing area, will produce a good big crop of honey regardless of strain. As far as an improved strain is concerned, some breeders may claim to have it, but only comparison with such a queen in the same yard under the same conditions could determine that. If we could regulate the mating of drones to queens by hand picked specimens as the stockman does with cattle, or the poultryman does with his birds, then we might talk improved strains; but this also is out of the question.

An isolated queen breeding yard might be the answer if a chance mating of an inferior drone with a superior queen does not upset all well-laid plans. But suppose we could produce this five hundred pound honey strain of bees. What would we do with the honey? The beeman hardly gets a livable price for his crop now. With such a flood of honey to glut the market, it seems to me to spell "Much Ado About Nothing."

J. T. Hammersmark,
Reno, Nevada.

LIMITED NUMBER OF QUEENS

From the Federal-States Foulbrood Project to be Made Available to State Agencies

Subsequent to 1936 when Federal funds were first provided for special investigations pertaining to the resistance of honeybees to American foulbrood, the Agricultural Experiment Stations of Arkansas, Iowa, Texas, Wisconsin, and Wyoming, and the Bureaus of Entomology and Plant Quarantine of the U. S. Department of Agriculture have been studying this and related problems cooperatively. Similar studies were inaugurated by the Iowa Agricultural Experiment Station in 1935.

The beekeeping industry has watched this work with much interest and many have expressed a desire to try some of the experimental stock with which the cooperating agencies are working. To review the results so far secured and work out a procedure of making stock available, a conference of the cooperative agencies was held at Texarkana, Texas, January 17-18, 1940. The following summarizes the conclusions reached.

There is ample evidence that strains of honeybees vary markedly as to the manner in which they respond to American foulbrood. Some strains succumb to the disease readily, while others show more or less resistance to it. So that the layman beekeeper will not consider the use of resistant stock a panacea for American foulbrood, it is well that he have a thorough understanding as to the possibilities and limitations of the use of so-called "resistant" stock. Before giving the final recommendations of the conference, therefore, it seems desirable to mention such possibilities and limitations.

The superiority of Italian bees over the German, or black bees, in combating European foulbrood has long been known; so it is not surprising to find that variation also exist in the manner in which different races and strains of bees respond to American foulbrood. Notwithstanding this, it was scarcely the hope of any of the cooperating agencies, when the experiment was inaugurated, that the work would result in a strain of bees that could be used for curing colonies actually infected with American foulbrood. The aim was, through selection and breeding, to find strains that were able to hold their own against the inroads of this disease, so that the use of such strains could augment, the efforts of state apiary inspectors and beekeepers to reduce the enormous losses caused by American foulbrood.

The experimental work has proved beyond question that some strains of honeybees are highly susceptible to American foulbrood, while others show pronounced tendencies to resist the disease. The burning of infected colonies, therefore, is highly important because it not only reduces sources of infection but likewise helps to eliminate stock highly susceptible to disease. The shaking treatment formerly used to control this disease merely prolonged the existence of susceptible stock, and colonies so treated served more or less as perpetual sources of infection.

Several strains of bees under test show resistance to a much higher degree than that found in the average colony. In most cases there has been an indication of increased resistance with each successive generation where queen progeny from resistant queens have been mated under isolation with drones from their own mothers.

All inquiries for experimental stock and as to how, if any distribution is to be made should be directed to your State Agricultural Experiment Station or to your State Department of Agriculture.

THE HONEY COOPERATIVE

AN INTERVIEW WITH DR. E. J. DYCE

IN our March number is a report of the "Million Dollar Michigan Meeting." Dr. E. J. Dyce was Ontario's visitor with a message to Michigan beekeepers of the results of honey cooperatives in Canada. It is our notion that similar associations in this country might be one way out of the dilemma of low prices and chaotic markets.

From Dr. Dyce's talk in Michigan, correspondence since, and some literature on Canadian cooperatives, an idea of the procedure and expectations of such organizations becomes apparent.

The advantages of cooperative marketing are many. In Ontario the organization of the Cooperative brought the province to the fore-front as a leader in orderly marketing. The old methods whereby each producer sells his own honey individually are no longer suited to the present time. We have to provide a marketing system in keeping with large scale production. Honey has to compete against sugar, jam, marmalade, corn syrup and a host of products of highly refined uniform standard quality. One way to do this is by standing together in an organized group.

Obviously, it's impossible for every beekeeper to produce the same quality of honey. But by means of a cooperative honeys can be uniformly blended as to color, flavor and water content. Dealers and consumers are accustomed to purchasing standard food products. The fact that honey is being processed to ensure a uniform non-fermenting product appears to be one of the chief factors which has led to the success of cooperation in Canada. Many dealers are buying all their honey from cooperatives in Canada, if for no other reason than to avoid loss from fermentation. The manager of each cooperative makes it his business to thoroughly understand the markets and can always sell to the best advantage.

Under the cooperative set-up honey is graded, packed and sold to markets which are well known and to which a supply of honey is constantly forwarded. The entire problem of marketing is taken off the shoulders of the producer. Honey is protected by insurance, stored under ideal conditions, and with the method commonly use by cooperatives, the producer receives an advance on his honey shortly after it is shipped. Most beekeepers need ready cash early in the fall, and unless some means is provided distress sales will be made. Distress sales definitely lower the general market price of honey.

Previous to the World War, Ontario and Quebec were the only provinces producing a surplus in the Dominion. There was no problem in marketing, as the surplus was readily disposed of in the western provinces.

During the war, prices advanced and beekeeping was naturally stimulated. After the war, production continued to increase, especially in the western provinces. This was due largely to the introduction and growing of sweet clover. Between 1921 and 1931 production in the western provinces increased 80 per cent. Shortly after the war, the western market for Ontario and Quebec honey was gradually shut off, and by 1937 Western honey was actually shipped into Ontario and Quebec.

About 1920 a wave of cooperation spread through Ontario. Many cooperatives were formed; most of them failed. But the Ontario Honey Producers Cooperative weathered the storm. During 1922 and 1923 the Ontario Beekeepers' Association purchased containers at a saving of over $10,000 each year to its members. In 1924, the present selling cooperative was formed with headquarters in Toronto.

The early days were stormy and difficult, due largely to insufficient education. Some of the first policies laid down were not in the best interests of members and had to be changed. However, a great deal of good was also accomplished. Packing was improved and an opening made for export for Ontario honey. Prior to 1924, practically no honey was shipped to England. The amount exported each year has gradually increased since. In 1931 Canada stood first as an exporter of honey to England. She has since maintained that position, with the exception of one year. In 1938 a total of over 5,000,000 pounds was exported from the Dominion, and of the 1939 crop over 7,000,000 pounds were shipped.

Shares in the Ontario organization are $25.00 each, with interest at 6 per cent. At present, the Ontario Cooperative handles annually from about 3,000,000—5,000,000 pounds honey, most of it on the local market.

One of the results of the cooperative movement was also the establishment of grading regulations which, altho at first voluntary, became compulsory at the request of beekeepers in 1934.

Altho in the early days of the Ontario Cooperative many mistakes were made, these benefits were great enough to keep the association going until a re-organization on new lines was effected in 1931 and 1932. A great deal of the credit for the success of the present cooperative is due to the efforts of the president, Morley Pettit, and the manager, T. H. Shield.

In 1931 processing equipment was installed by which honey could be blended for color, water content and flavor, and a uniform pack placed on the market, guaranteed free of fermentation, and guaranteed as to quality.

The very fact that the product could be guaranteed is perhaps the secret of the present success. Storekeepers were tired of purchasing honey that spoiled on their shelves. They were only too glad to pay a little more for a product which was under guarantee.

In the early days of the Ontario Cooperative, a definite honey contract was required, but now this has been discontinued and the association depends entirely on the goodwill of the beekeeper to ship a substantial amount of honey to the cooperative. Members of the cooperative pack for local sale in their own tins, which may be purchased through the cooperative or direct from can companies. In the earlier days, charges were levied against all local sales made by members. Now charges are only levied on honey shipped to the cooperative. Containers for bulk shipments to the cooperative are loaned to the beekeepers on a returnable basis. Beekeepers pay their own freight.

So the Ontario association is a freely operating, goodwill organization, and because there is no coercion, no demand and no necessities, it is a success.

There are a few points whereby the success of any cooperative may be ensured.

1. Keep the members well informed concerning all affairs of the cooperative.

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VETCH AS A HONEY PLANT

By EDGAR ABERNETHY

THERE seems to be a considerable confusion in regard to the value of vetch as a honey plant. Some observers report that the blossoms yield nectar; others that only extrafloral nectaries and, possibly, exudations from aphides found on the plant are of value; while still others state that little or no nectar at all comes from the plant. No doubt some of these discrepancies are due to climatic and seasonal variations, but I think there is still another explanation.

In my community vetch is extensively grown, both for forage and for soil improvement. It is the only local cultivated plant which I have found to be of very much value to the beekeeper. In my location it ranks second only to the tulip-poplar as a source of surplus; in one very rainy season it took first place. The honey is of at least average quality; light amber in color, and of good flavor, although just a shade strong for some palates.

The vetch grown here is largely hairy, or sand vetch, although a little Oregon vetch, mainly volunteer growth, is found. This latter plant makes a dwarf growth, some eighteen inches high, and produces a small, single, pinkish, pea-shaped blossom. These blossoms are never visited by bees; the nectar comes from extrafloral nectaries, situated along the stem where it branches, or at the base of leaf stems. It begins to yield a week or two before blooming, and continues throughout the blooming period. Bees visit it eagerly, for it begins to yield early in April when little else is available. I cannot even make an estimate as to its potential value, for it is not grown extensively enough to tell much about it.

Few plants make a ranker growth than hairy vetch; each plant sends out dozens of stems, which attain several feet in length. A field of vetch in bloom is a tangled mass of luxuriant vegetation, covered with purple bloom. Ordinarily, these blossoms are full of nectar; if one plucks a cluster, and crushes it between his teeth, it tastes perceptibly sweet. Bees swarm upon these blossoms, even though the nectar is somewhat difficult to reach. The bell of the flower is much too long for honeybee tongues, so they usually insert them behind the calyx, and suck up the nectar from there. The blossom has an overlapping slit all the way down one side, and sometimes a bee will force this open from the top by main strength, until she can get far enough down to reach the nectar. Vetch remains in bloom throughout most of May, although the greater portion of it is cut for hay two or three weeks after reaching full bloom.

A few years ago I was greatly surprised to find a field of vetch in full bloom, with hardly a bee to be seen. No sweetness could be tasted when the blossoms were chewed; evidently no nectar was present. After puzzling over it for quite a while, I noticed that the stems were fuzzy. That is normal; this fuzz is the reason for the sobriquet "hairy." It has sometimes caused trouble when the hay was fed to stock. Probably for this reason, a smooth-stemmed variety has been developed, known as Woodleaf Smooth Stem. At one time seedmen listed it separately from the old type. Now it is impossible to buy it by name; all one can do is to buy hairy vetch seed, and wait until it grows to find out which type it is. The chances are it will be the smooth-stemmed kind, for it has largely supplanted the other, but sometimes one gets the old type, and that is what had happened in the case of this nectarless field.

Two views of the rank-growing vetch.

The explanation of the problem, and, I believe, of many of the contradictory reports in regard to the value of vetch for honey production, is simply that the old type with the fuzzy stems does not yield nectar, and the smooth type does. It would be a big boost for the beekeeper if the fuzzy type could be entirely eliminated. Not only would it help the beekeeper, but the farmer would be benefited as well, for the hay from the newer type is much safer to feed. In no respect, whether in regard to hardiness, vigor, yield, or anything else, is the smooth-stemmed type inferior to the older one.

Stanley, N. C.

Bed of wild senna in one of the author's test plots.

HONEY PLANT GARDENS

By FRANK C. PELLETT

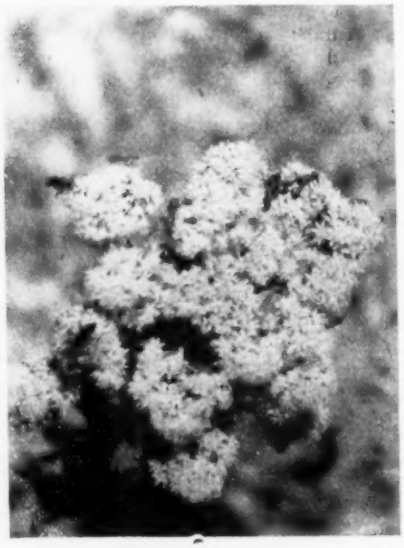
Wild senna in bloom.

Wild Senna

WILD senna **(Cassia marylandica)** is a perennial plant common to the eastern states. The leaves are used to some extent in the drug trade and are gathered in late August or September and compressed into cakes for the market. From them comes an efficient and safe cathartic.

The plant grows to a height of four to six feet and is vigorous and striking when in bloom. The large racemes of bright yellow flowers in June and July attract a great variety of insects. It seems particularly attractive to many kinds of wild bees and butterflies.

The plants in our test plots have bloomed freely but as yet we are unable to tell much about their value as a source of honey because of the fact that the flowering period comes during the time when the honeyflow from sweet clover is on and the bees are too busy with that to give much attention to other plants in small plots. There are reports which indicate that this plant may be of considerable value to the beekeeper in some localities.



The rigid goldenrod.

Gaura

The gauras are rather coarse plants with delicate flowers. There are several species some of which may be found in nearly every part of the United States but more especially in the Southwest. Although they are apparently very good honey plants they are not often common enough to be generally recognized by the beekeepers.

A beekeeper writing from New Mexico to the American Bee Journal in August, 1891, stated: "It has proved to be by far our most productive honey plant—more so than the Cleome, of which we have an abundance, or, considering the amount of it, better even than alfalfa. The bees work on it about the first thing in early summer and keep on working on it until the last thing in the fall."

Flower cluster of prince's plume.

Gaura lindheimeiri, the one we have in the test plots, is native to Texas. Thus far it promises to live up to the New Mexican's estimate.

Prince's Plume

An occasional report of surplus honey from the deserts of Nevada and other western states was the reason for our interest in the Prince's Plume **(Stanleya pinnati).** We can find no record of it having been recognized as important anywhere in the beekeeping literature, but evidently beemen in some localities depend upon it to considerable extent. Since there are several other species native to the dry areas, we are by no means certain that the one we have in our test plots is the best honey plant among them.

It belongs to the mustard family which contains many good nectar plants, but which often yield honey of second quality. We have no information as yet as to the quality of honey from this species.

Princes's Plume flowers freely; the blooms are borne in long terminal racemes and are yellow in color. It is perennial and once established should remain for a long period in suitable situations. This plant seems worthy of further observation and more extended trial.

Goldenrod

The goldenrods are a very large group some of which are to be found in nearly every part of America. There are more than eighty species in all: In eastern Canada and in New England they yield considerable surplus honey while in some mid-west localities the bees scarcely notice them at all. A careful study of the entire group would seem to be very desirable in order to determine which species are of most value to the bees and under what conditions they may be depended upon for honey.

We anticipate that several years will be needed to secure much information on so large a group. Four species are already growing in our test plots and several more will be added next spring. The rigid prairie goldenrod **(Solidago rigida)** is the one shown in the photo. It was swarming with insects during the time of bloom. Butterflies, beetles, honeybees, wasps and wild bees crowded each other for resting places on the flower clusters. Appearances would indicate that were the plant abundant, it might yield surplus honey. Formerly it was very common on mid-western prairies but it has largely disappeared with the breaking of the sod.

Atlantic, Iowa

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CAUCASIANS VS. ITALIANS

By LEO TRAVERSY

I wish to offer congratulations to those conducting the excellent study of resistance of bees to American foulbrood.

After twenty years of work and study with different races of bees, I have come to conclusions on this subject. In my recent investigations I have determined that the qualities of the Caucasian bee are dominant. The Italian bee is not at home in the cold region of North America, especially in the province of Quebec. Italian bees are in the process of adaptation rather than in the process of naturalization. The Caucasian had its origin in Russia, a country where the winter is severe as it is in Quebec. Other dominant characters indicate that the Caucasian is basically resistant to American foulbrood, a disease to which the yellow bee is particularly susceptible.

Since 1929, the plague of American foulbrood has ravaged our bee yards and in Quebec alone has cost the Minister of Agriculture $150,000 in indemnity for apiaries that have been burned.

I am actively engaged in work which allows me to see the good results obtained whenever package bees with Caucasian queens are introduced into apiaries which have been for the most part burned because of American foulbrood or destroyed by wintering, or where an increased honey production is desirable.

For instance, at the Villa Grand Coteau, St. Bruno, County Chambly, in the spring of 1935, 83 three-pound packages of Caucasian bees arrived in very good condition the 15th of May and were hived on comb foundation. We gave them 1,000 pounds of sugar. Thirty-five hundred Jumbo combs were drawn out, 20 natural swarms issued, 16 divisions were made, 30 queens raised, 5,000 pounds of white and 3,000 pounds of amber honey were harvested. One thousand pounds of honey were fed for winter and not a single colony destroyed for disease.

For the apiary of V. A. Heroux, twenty-five rods from that of Reverend Father Philemon, owner of the apiary just described, 100 three-pound packages of Italian bees were received on the 25th of April and placed on comb foundation. There was a loss of two packages by starvation and of ten packages after introduction. They were fed 1,000 pounds of sugar. There were 62 swarms, 2,500 pounds of white honey and 4,600 pounds of amber honey harvested, 2,500 combs built, and one colony was destroyed from disease. Two hundred pounds of sugar were fed for winter.

In the apiary of Leon Daignault, at Longueil, 150 three-pound packages of Caucasian bees arrived in good condition on the 4th of May and were hived on comb foundation. There was no loss after introduction. Sixteen hundred pounds of sugar were fed. There were 50 natural swarms, 5,000 combs were built and there was a harvest of 10,000 pounds of white honey and 4,000 pounds of amber. Before fall feeding, twelve colonies weighed 77 pounds each and forty about 70 pounds each. Approximately 1,000 pounds of sugar were fed for winter. No colony had disease.

In the apiary of Oscar Auclair, of Marieville, in 1935, there were 65 Italian and 20 Caucasian colonies in the spring. During the winter there had been a loss of 3 Caucasians and 22 Italians. He bought 50 three-pound packages of Caucasians which arrived in May. During the season, there were 10 natural swarms. The Italian colonies built 500 combs to the Caucasians' 1,000. The white honey harvested reached 5,000 pounds and amber honey 6,100 pounds. One hundred forty colonies were placed for winter, after feeding 800 pounds of sugar. During the season, American foulbrood destroyed 5 Italian colonies and no Caucasian.

In the apiary of Amede Bachand, of Marieville, 200 three-pound packages of bees were bought in the spring of 1935. One hundred were Italians and one hundred Caucasians. During the summer forty-one colonies had American foulbrood, forty Italians and one Caucasian.

In the apiary of Hormidas Lefebre, of St. Simon County, Bagot, in June, 1935, in 30 colonies of Italians having European foulbrood I introduced 23 Caucasian queens and by August, the disease was gone. The harvest of honey was 103 pounds per colony with 70 full combs retained to com plete winter provision.

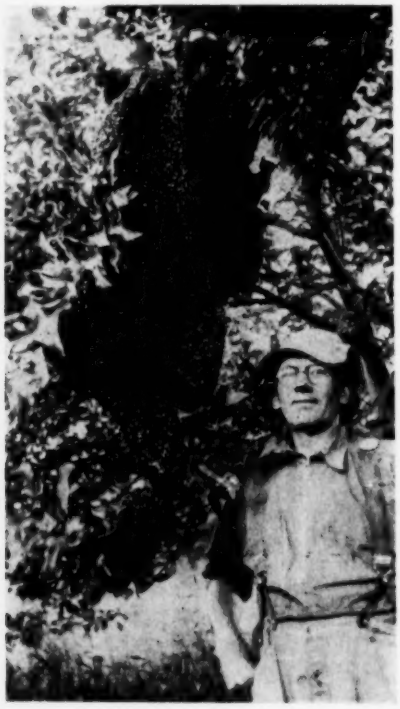
St. Damase, Quebec.

SWARM CONTROL

By G. H. CALE

MANY of us feel that swarming is one of the delights of beekeeping, that without it some of the poetry of beekeeping would be destroyed, some of its romance.

Maybe so, but I feel much as Dr. Miller did, who said that when a neighbor reported his bees were



Harry Beaver, Troy, Pennsylvania, 46 years a beekeeper, 1100 colonies, says these kind of swarms grow in Pennsylvania. (Bradford County is famous for turning out boys, bees, butter, and buckwheat,)

swarming, he felt as he would if he had been told the cows were in his garden. The cows might have a beautiful time, but the kitchen table would suffer.

The bees have a wonderful time swarming as far as we know; yet our crop suffers. Complete swarming will so rapidly depopulate a colony that a crop cannot be expected from it that year, and yet it is a perfectly natural occurrence. Bees can only divide themselves in that way. The birth of the individual bee merely adds to the sum total of the colony. It does not make new colonies.

There are times when most bees will swarm regardless of anything the beekeeper may do and there are times when few swarms will occur even though the beekeeper does nothing. One never knows which circumstance the given season will bring. There have been many attempts to analyze swarming, what causes it, how to stop it. Whether any or all of them are true, nobody knows.

As far as I am concerned, bees swarm, and there are certain things I know how to do to reduce swarming to the lowest possible point, and in spite of everything I do, some years will bring more swarms than others. Some locations seem to have the right conditions to make swarming bad and others to make swarming slight.

Many attempts have been made to breed bees that will not swarm. There has never been a successful one.

Harry Leid, nine, takes a swarm. His grandfather is the beekeeper. (Gibsonburg Ohio.)

However, raising queens from colonies which swarm seldom or not at all is a step in the right direction. To expect every daughter of such queens, however, to produce colonies that will never swarm is probably something not to be expected.

Some races of bees swarm worse than others. If the Carniolans are kept in the hives used for Italian bees, they will swarm badly; in the larger hives, not so badly. A cross

Swarm emerging. The queen follows, often almost the last to leave.

between Carniolan and the Italian bees are the worst swarming bees I know of. Some think the Caucasian bee swarms badly. We have not found that to be true. In fact the pure Caucasians are less inclined to swarm than the Italians. However, once crossed with the Italians, they swarm badly. The Italian bee varies so much that one can lay down no observation which is correct for it. Some Italians swarm worse than others, and some swarm little.

Let us assume for our location and for our choice of stock, we want to

M. V. Millar, Palmerston, Ontario, has the right idea. If the bees are just laid quietly in an empty hive body on top this way, they go to the combs quickly. (Don't shake them on the ground.)

have as few swarms as possible. What shall we do? First of all, see that your colonies have young queens; if possible, of the current season's production. Young queens, introduced in spring fruit bloom, seldom produce a colony that swarms when the main crop is in summer. They swarm before a second or fall flow. Any queen, two or more years old, may be superseded coincident with the swarming period and the bees emerge with a virgin, following her away on her mating flight.

Double walled, Modified Dadant hives. One gets a fair idea of the number of bees in a swarm from such a hive, from the crowd trying for the entrance, off the oil cloth. (Carl Chappell, Biddeford, Maine.)

As nearly as you can, therefore, have young queens from either the previous fall or the current spring. That is step No. 1. The young queens, of course, are rapid layers and need a lot of room in which to place eggs, many cells on good comb, all worker brood if possible. Some queens are capable of laying as many as two thousand eggs or more each day when they are at their best, just before the honeyflow. They may then, in the period of time required to produce an adult bee from the egg to emergence (twenty-one days), lay as many as forty thousand eggs. To accommodate this laying will require from eight to a dozen combs. No queen should be expected to put this much brood in a single hive body of ten combs. This fact has brought about the general use of at least two 10-frame hive bodies for brood rearing.

Remember, also, that bees, in producing brood, move up, not down. A queen will lay up in the second body. When it is full she will move down to the first body with reluctance. It is best to reverse one for the other when the top one is full of brood. If one does this with the 10-frame hive, he will keep a certain amount of freedom and comb space ahead of the queen, as the colony grows in population. Large hives like the Modified Dadant are supposed to have sufficient comb space for the queen without this manipulation.

So now we have two things, a young, heavy-laying queen, with plenty of comb space, in the right position for her to use. As long as comb is only needed for brood two bodies are enough, but when there are large amounts of pollen and nectar also coming in to the hive, remember it must go somewhere. Often a third 10-frame hive body must be added to the double brood chamber and a shallow super must be added to the large hive to accommodate early nectar before the main flow actually begins This also has a tendency to spread the bees out over a larger comb area than is possible when they are crowded into smaller space, and produces comfort and freedom. Keep the brood nest clear and don't let it become clogged with honey or pollen during the build-up period even if you have to move combs and put empties in their place.

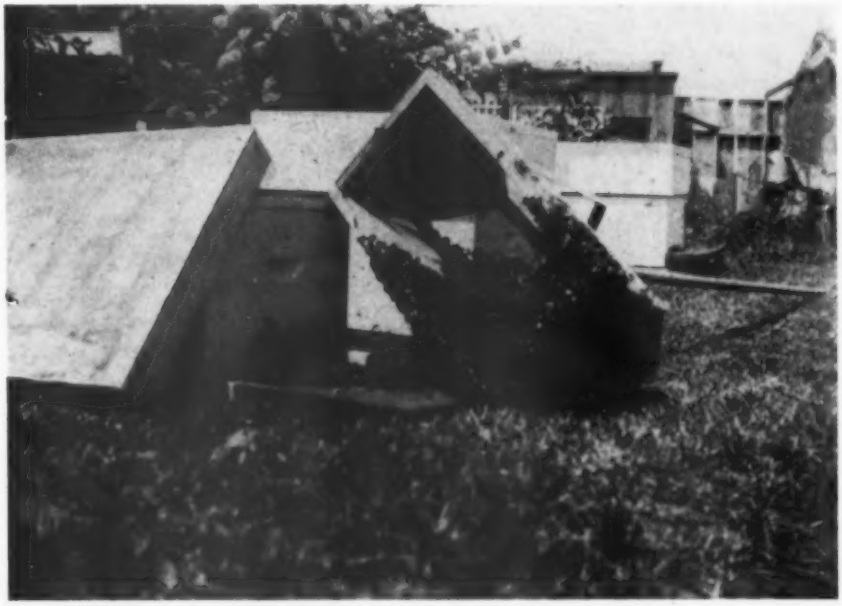
Lewis Avery, Clinton, Michigan, has here an ideal shaped swarm for easy capture, low, not mixed in limbs and leaves. If they were only all like that!

Now we have added room for nectar and pollen to our list of requirements. So the colony grows. If bad weather keeps the bees all at home, and crowds them all in, they may start swarm cells. If they are free to fly every day without this, they may not start any cells. If the main flow comes on when the colony is right in the pink of condition to start work in nectar gathering, you get along with no swarming at all.

Make sure that the bees are comfortable, that they have plenty of storage space, and this means **plenty.** Don't wait to put on supers until the brood nest is crowed with nectar from the main flow. Put supers on before even if the queen goes into them.

For comb honey production, it is good practice to put on a shallow super of drawn comb for extracted honey at the beginning of the flow, and to put your section supers on top of that. When the bees start in the section supers, remove the shallow extracting supers to other colonies, and keep the section room abundant while the flow is heavy, only reducing

(Please turn to page 229)



Carl Chappell again. He uses a long-handled swarm catcher. Often such implements are fixed to carry an old comb to keep the bees put. Sometimes they work; sometimes they don't. But what will you do, when trees are fifty feet high?

CONSTANCE LEEBY MAKES NORTH DAKOTA HONEYWISE

MISS Constance Leeby and her senior students in the Home Economics division of the North Dakota Agricultural College are helping to make that state honeywise by extending the use of honey in the home. We have no idea how Prof. Leeby became interested in honey cookery, but she is making herself so effective that honey is likely to become a household word in North Dakota. Her advanced classes at the college are continuing to work with honey cookery each winter term and her tie-ups with American Honey Institute and her work at the college and in extension throughout the state are going a long way to make North Dakota folks acquainted with the value of honey as a sweetening agent in foods.

Ask anyone around the North Dakota campus about cakes and it is pretty likely to be claimed that Miss Leeby's Chocolate Honey Cake is the most popular cake of the year among faculty and students. The result was a public demand for the recipe which was sent out as a press release to all the newspapers of the state, some two hundred. This new cake has also been accepted by American Honey Institute as a standard tried and tested recipe.

Constance Leeby.

Following is the recipe:

1 ½ cups cake flour
1 tsp. soda
¼ tsp. salt
2 squares chocolate
1 tsp. vanilla
2 tbsp. butter
1 cup minus 1 tbsp. sour milk
½ cup plus 2 tbsp. honey
6 tbsp. sugar
1 egg

1. Melt chocolate and butter over water. Blend well.

2. Sift, then measure flour. Sift again with baking soda and salt.

3. Mix sour milk, honey, sugar and well beaten egg. Stir to dissolve sugar.

4. Mix chocolate with milk mixture. Add dry ingredients. Beat well after each addition. Add vanilla last.

5. Turn into two 8-inch layer pans and bake in 300-degrees F. oven for 50 minutes.

A honey-fudge frosting for this cake was also worked out. It follows:

¾ cup plus 1 tbsp. sugar
3 tbsp. honey
⅛ tsp. cinnamon
⅛ tsp. salt
1/3 cup milk
1 square chocolate
2 tbsp. butter
1 tsp. vanilla

Boil sugar, honey, cinnamon, salt and milk to 236 degrees F. (soft, almost firm ball). Remove from fire and add chocolate and butter. Do not stir, leave just as they fall. Set saucepan in cold water. Cool to 90 degrees F. (lukewarm or lower). Add vanilla and beat. The beating period is long. Allow frosting to stand periodically. When finally thickened and changed in texture, spread quickly on cake and groove the surface with a knife tip. This

Dave Elman, of Hobby Lobby fame, telling Howard Nelson, of WDAY, how he became interested in the hobbies of other people.

J. A. Munro and Howard Nelson broadcasting about bees and honey from the apiary of the North Dakota Agricultural College.

frosting is excellent upon standing a day or more.

Perhaps this cake belongs to one particular senior student in her class in experimental cookery who conducted long and repeated tests to develop a cake with a maximum proportion of honey which would give the desired properties of fineness of grain, tenderness of texture, uniformity of color and lightness. Try this recipe if you want a new delight.

These same home economists under Miss Leeby rank high in national tests. Competing with sixty-three other colleges teaching home economics, the second year foods class won first place in marketing and production problems, seventh in nutrition and eleventh in food principles and techniques in a national test before the American Home Economics Association.

High ranking in these three divisions of the test won third place for N. D. A. C. students, an achievement that is outstanding when it is considered that they competed with students from most of the larger institutions, including the universities and state colleges of Minnesota, Iowa, Nebraska, Kansas, New York, Oregon, Georgia, Montana, Maryland, Connecticut, Illinois and others.

"I was naturally dubious about what kind of a showing we would make," Miss Leeby said, "and I am well pleased with the outcome. Most of them made above average grades. The test gave the girls an opportunity to check up on themselves and they came through with flying colors. We in the School of Home Economics at N. D. A. C. were also glad for the chance to cooperate in this national test which was given for the first time this year."

To her credit, Miss Leeby has Circular 108, issued in October, 1931 "Honey Cookery." It can be obtained from the Agricultural Extension Division of the North Dakota Agricultural College, Fargo, North Dakota. It is a twelve page bulletin giving important facts on honey and how to keep honey, with pictures to make it lively and interesting, all recipes tested and guaranteed in every way. You should add this to your honey cookery library.

It is to be regretted that Miss Leeby has not had an opportunity to assemble and write the results of all her work on honey in North Dakota. She should be freed from details or have additional time at her disposal to do this, so that the rest of the country, as well as her own state, may profit by what she has been doing.

Miss Ruth Dawson, Nutritionist for the Extension Service of the college is also to be congratulated on the extension of Miss Leeby's honey cookery to township and homemakers' clubs and other similar groups throughout the state. Miss Leeby's work as a result has been received favorably by various homemaking groups. One of Miss Dawson's ideas is to get homemakers to use as much of their home products as possible. Since honey is a home produced article and has advantages over plain sugar in various cooking, Miss Dawson finds that she gets prompt response from her club members.

So each year sees fine honey cookery exhibits on the program and activities of the clubs in Miss Dawson's district. The activities of these clubs cover a wide range including textiles, canning fruits, etc., but honey cookery has always received very favorable consideration.

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RELEASING THE QUEEN

IN installing package bees the usual plan of suspending the queen cage between the frames is open to two objections. First, we cannot see whether the queen has been released until we pull up the cage for examination and have disturbed the bees to some extent. The result is that we do not check on the release of the queen as soon as we otherwise might. Second, the bees will often start to build combs in the space between the frames that accommodate the queen cage. Their building response is often very prompt, and the removal of the comb is at least a nuisance.

The Evans method (invented by a neighbor of mine) avoids both these difficulties and I have used it with 100 per cent success for two years now. The method perhaps requires the use of an "introductory board" cut out of the side of a cardboard box, a piece of wallboard, or a wooden structure the size of the top of the brood chamber. In any case this is a good piece of equipment for cold climates, since it confines heat to the brood chamber while feeding is going on from a syrup pail in the super. The introductory board is given a hole just over the middle of the frames left in the brood chamber. This hole is made long enough to enable one to lay the queen cage, wire side down, within it and directly on top of the frames, and to leave the ends unobstructed for the emergence of the queen. A piece of cloth is then thrown over hole, cage and all, to conserve heat.

It has been customary with us to remove the candy from the exit hole and to plug with honey, but that is not an integral part of the method. If it is desired to delay the release of the queen, there will be no reason for the removal of the candy. However, prompt release seems to work out all right, provided the bees are well fed and are not disturbed at the time.

We have been accustomed to feeding from a syrup pail with perforated lid placed over a second hole in the same introductory board. Again this is not an essential part of the method, and it might have a tendency to draw the bees away from the queen cage in cold weather. I make very small perforations, using a fine nail, not driving it beyond the tip. Such a pail will not leak syrup until sucked, and there seems to be no reason why the inverted pail should not be set with advantage over the original hole which could then be more centrally placed. No drip need endanger the queen or delay her release. The cloth would then not be required, and the queen, one could be sure, would be warm in the center of a small cluster of bees. On the other hand, it would be harder to examine the cage for release of the queen without disturbing the bees.

The essential part of the method is to leave the frames unspread, and to lay the queen cage flat on the top of the frames in a central position, with exit or exits not too near the edge of a hole in an introductory board to prevent the long body of the queen from turning the corner. This device avoids spreading the frames undesirably, and permits examination within an hour, or about the time the queen may be expected to be free. If the bees are still busy about the cage when one looks, the cloth is simply replaced, and reexamination made later. If the cage is deserted, it is lifted and taken away and notation made that the queen is out.

There is still another advantage. Sometimes, when the queen cage is suspended vertically, a dead attendant bee may fall into the exit hole, blocking it and preventing the exit of the queen until the beekeeper discovers what has happened. With amateurs this may be weeks later. When the queen cage is horizontal the accident cannot happen.

Percy H. Wright,
Moose Range, Saskatchewan.

SUNSPOTS AND HONEY PRODUCTION

By N. SLATER

I have been investigating the effect of sunspots on climatic conditions and floral growth. I have studied astronomy for years and have given special attention to the sunspot cycle. Scientists agree sunspots affect the atmosphere. If we carry that a step further, we know that this in itself produces weather which has an immediate effect on plant life and also on nectar secretion.

I am also a beekeeper, so what is more natural than that I should be interested in the effect of weather on nectar? An explanation of sunspots and how they affect us might be of interest to other beekeepers.

The sun, as we know, is our nearest star, 92,880,000 miles away. It is neither a solid nor a liquid, but gaseous, with 70 out of the 92 known elements including hydrogen, oxygen, nitrogen, sodium, silicon, aluminum, iron and nickel. Its diameter is 880,000 miles and its rotation period is approximately 27¼ days. Its density is much like that of honey—1.42.

If we observe the surface of the sun through a telescope, or project its image on a screen, we usually see one or more dark spots termed "sunspots." If they are large enough, they may be seen with the naked eye through smoked glass. They were first observed by Galileo in 1610, who also found that the sun rotated. He watched the progress of these spots day by day across the face of the sun from east to west. These observations may have later caused his blindness.

Sunspots vary in size from small pores, 500 miles across, to the largest groups of about 50,000 miles in diameter. Those above 20,000 miles in diameter can be seen through a smoked glass.

Although they appear as dark spots, they are only dark in comparison to the rest of the sun. We think sunspots are gigantic whirlpools and the expansion of the gas near the sun's surface cools them down to about 2,500 degrees centigrade. The surface temperature of the sun is 6,000 degrees, so you see the comparison.

It may interest readers to know how we reach this conclusion. Briefly, if the light from the sun is passed through a spectroscope, we get a band of light colored from violet to red, and it is strongest in the yellow. From this, it is calculated that the surface temperature is 6,000 degrees centigrade.

These sunspots are not always visible, but wax and wane in intensity and number, and have a remarkable cycle every eleven years, a fact which cannot be ignored. Newcomb arrived at an average of 11.13 years and the minimum is usually about 6½ years later. Thus the spots gradually increase to a maximum, fall away to a minimum and start all over again.

Here are the maximum and minimum years of sunspots since 1890:

Maximum	Minimum
1893-1894	1901
1906	1913
1917	1923
1928	1934

Scientists have discovered that the weather follows the same regular cycle as the sunspots, in eleven year periods. Sir James Jeans, scientist and astronomer, permits this quotation from his book "Through Space and Time." In chapter VI, page 158, he says:

> "With the waxing and waning of the number of sunspots, the summers gradually change from being hot and dry to being cold and wet and then back again, the complete cycle taking about 11 years. Two instances will illustrate the nature of the evidence.
> "When a tree is cut down, we see a succession of concentric rings in the cross section of its trunk, and each ring is known to be the growth of a single summer. We can tell how many years old the tree is by counting these rings. Yet, although the years must all have been of equal length, the rings are not of equal thickness. Some were formed in moist summers, when the trees grew luxuriantly and added profusely to its girth, others in dry summers which added but little to the size of the tree.
> "Now a careful study of such cross sections of trees frequently shows that the rings change gradually in thickness in a cycle of 11 years, which coincides exactly with the sunspot period. The thickest rings are formed in those years when sunspots are most plentiful, and we see at once that the abundance of sunspots goes with the abundance of tree growth and so with moist summers."

In the second illustration, Sir James Jeans gives a graph showing the sunspot curve from 1896 to 1927, and above that another representing the height of water in Victoria Nyanza, the fresh water lake in equatorial Africa. He says:

> "We notice at once that the height of the water in the lake keeps in almost perfect step with the frequency of sunspots, and so exhibits an eleven year cycle just as the sunspots do. The water, of course is highest after a wet year, providing proof that the weather is wettest when sunspots are frequent, and vice versa."

Now, as far as my investigations are concerned with trees, shrubs and flowers, I should like to graph out what may be called a "honey production curve" over a period of years and see the relationship to the sunspot curve.

In view of this investigation, I would like to appeal to honey producers. One must have data. I should be grateful to any who are interested in this speculation in any part of the world to write me at 70, Leam Terrace, Leamington Spa., England, with the following information:

(a) Good honey years from as far back as they can remember.
(b) Bad years.
(c) Is the production from a good year to a bad year gradual, or is the fluctuation spasmodic?
(d) District and country.
(e) From what flowers and shrubs do the main honey crops come?
(f) Nature of soil.

I do not require figures of the amount of honey, just the good and bad years. If all the questions cannot be answered, just answer those possible.

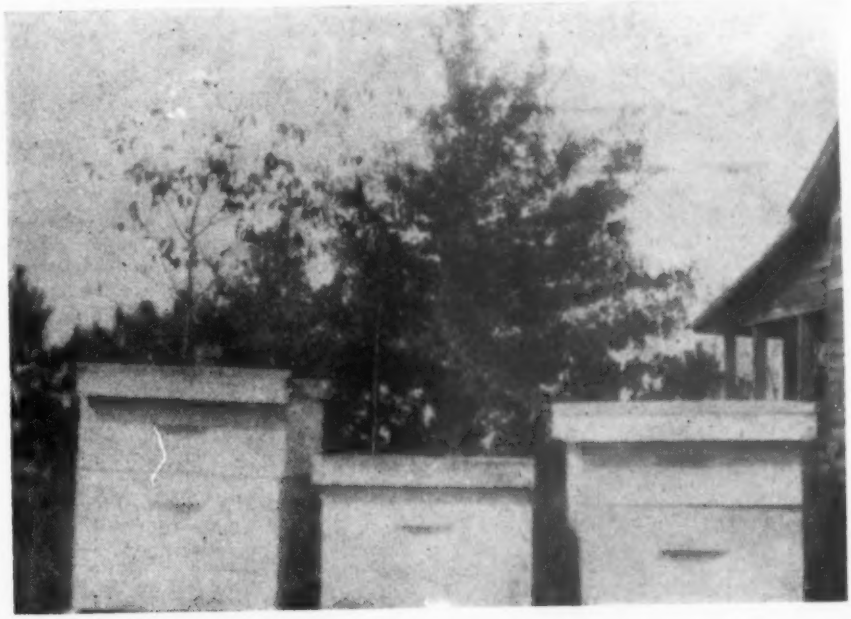
I realize the evidence may not have any bearing at all on my investigations, but some others may have also followed the same line of thought. If the answers and my work show any positive results, I will write the facts for publication in American Bee Journal.

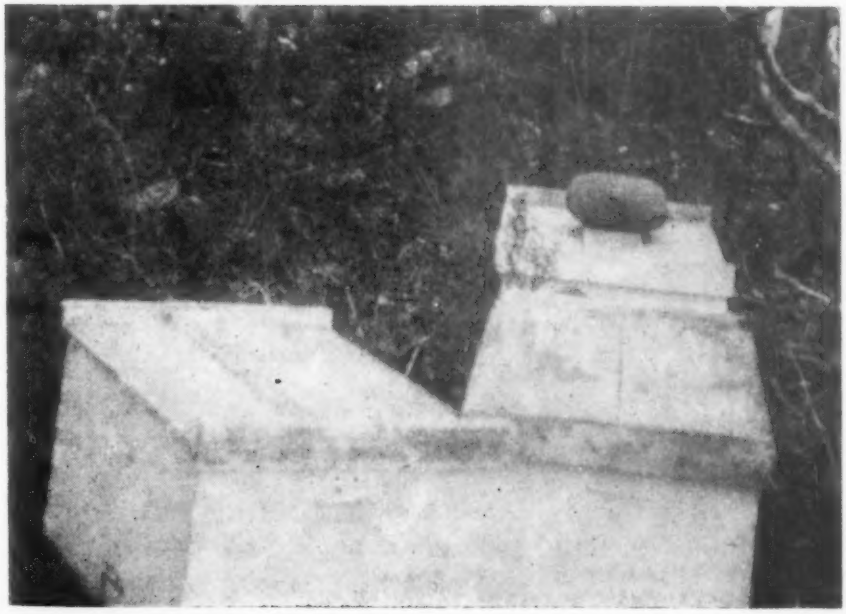
INCREASE

By H. S. LEITNER

I have had such good success with my method of increase, and as it is so unlike any method I have read about, I shall try to explain it step by step. It is used after the honey-flow and does not interfere with the spring crop. Supers must, of necessity, be full depth.

In spring at supering time, exchange half of the combs and bees of the hive on which the supers are being placed with full sheets of foundation. Put the combs and bees removed in a full depth super and fill the remaining space with foundation. Place the super on top of the hive and put the bees in both of the bodies on the same side. If they work on these rapidly, another may be given in like manner.





About five weeks before the flow is expected to end, place the queen in the bottom hive body underneath an excluder. As soon as the honey is removed, put the excluder over the second hive body. The queen will lay eggs at once there. Now, we are ready for increase. This way of supering prevents swarming here. Remember, as long as we get increase by natural swarming, we will always have a swarming strain.

Now the colony occupies only two hive bodies. Place the hive stand a little to one side and pulled in front of the old colony as shown in the picture. Arrange the hive stand and bottom board of the new hive to resemble that of the old one, so bees coming in will naturally divide themselves between the two. If the majority of the bees insist on returning to the old hive, gently pull this back a little or else move the new one forward until the bees divide themselves to suit. Of course, a queen is given to the queenless unit.

Do not move either division, but leave them this way until the end of the season and then they may be put wherever you wish. If one is to be moved, move both. Otherwise, old field bees will all return to the old stand.

The picture of the three hives shows the position when three are made from one instead of two. After eighty pounds of choice honey had been removed and the queen had been given the liberty of the second story, I pulled the whole hive a foot to one side, removed the two top stories to a new bottom board beside the old stand, put the queen in the single hive, introduced another in the double, removing the excluder. If for any reason bees fail to divide themselves properly, move the hive to which the most of them are going a little more to one side.

A month later I made a second increase working the hives about a foot apart with the new division in the middle. Never depend on these hives to rear their own queens but have laying queens for every one to be divided. She will pay for herself long before the bees can rear one.

If you operate for comb honey and wish to increase artificially, divide the colonies at the beginning of the flow and give them fewer supers.

Winnsboro, South Carolina

GETTING EARLY SECTION HONEY

By A. H. BOWEN

One of the author's hives supered for comb honey.

MOST beekeepers agree that it is easier and perhaps more profitable nowadays to produce extracted honey than to produce section comb honey. Nevertheless, some districts still have the requisite fast flow and some buyers still prefer section honey and are willing to pay a higher price for it. Also, from the point of view of the beekeeper, it is a very interesting crop to produce, and it does away with a certain amount of the labor connected with extracted honey production.

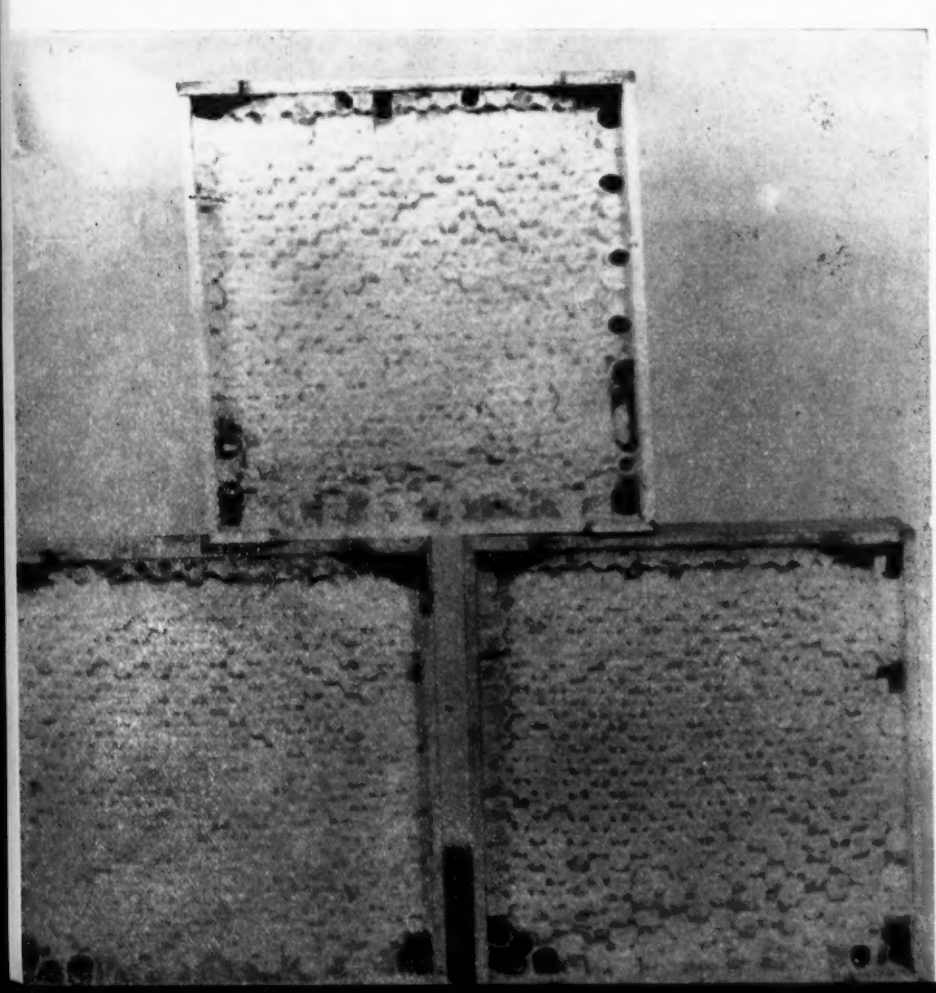
For some years I have had one apiary which has been run mainly for section honey. It is situated on a steep bank, with a purling stream at the bottom. Elder and hawthorn bushes provide shade in an otherwise hot situation. Flat walls are cut into the bank to accommodate the hives.

The hives are British, holding ten standard frames and two division boards. Many beekeepers do not think it feasible to produce section comb honey in an outyard. They ask, "How about swarming? Can it be controlled?" We have, I think, proved this to be possible with a certain amount of luck. A good flow comes from sainfoin about June 4 to 7. If this can be gotten into sections, so much the better.

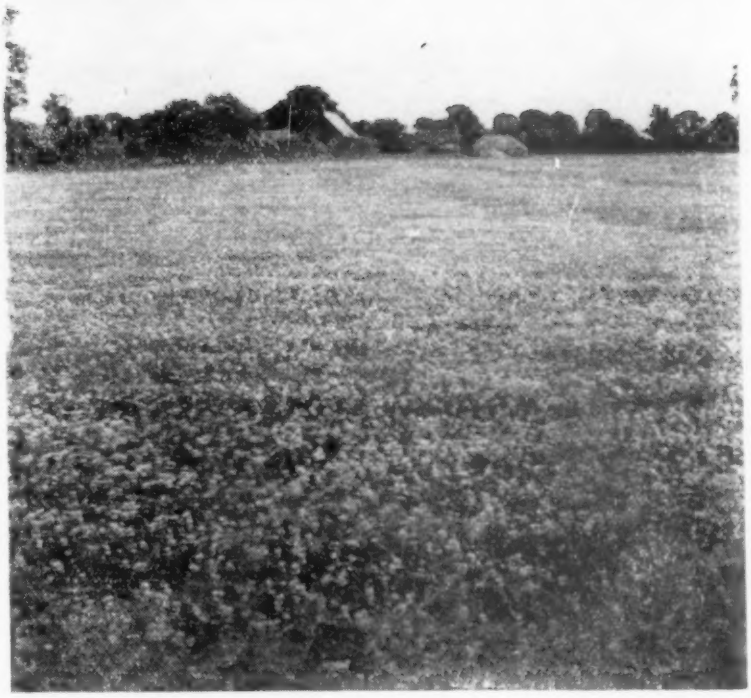
Stimulative feeding is resorted to, two pounds of syrup per colony per week having the desired effect. We used to use a shallow super for the first super with ten narrow frames, giving room for both brood and honey putting them on a few colonies, but for collecting the choice primrose sainfoin honey, the comb honey sections must be placed directly on the brood combs of which at least nine ought to be full of brood from side to side. If this number is not present, we put in combs of very advanced brood and when this brood emerges, the queen has room to lay.

I do not think it matters whether two-way or four-way sections are used, but it is important that the foundation be fresh and sweet. Our section racks hold twenty-one sections, with wooden dividers between them. They are surrounded by what we call lids to keep them warm and secure.

The hives are leveled up at the



Sections of well-sealed comb honey.



White clover field in England.

time the first supers are put on, and a clean piece of unbleached calico covers the sections, with quilts on top. If the sections are not entered promptly, it is usually through a fault of the queen in not laying freely enough.

It is necessary to go to each colony fairly often to take out a comb of honey from the brood nest here and there, and put empties back so the queen will find cells in which to lay.

I have nuclei boxes hanging on several hives. When I find a colony with its first queen cells and suspect a swarm, I form a queenless nucleus in one of these boxes which is closed up, and then put on another hive in another apiary. When the queen has mated, it is brought back and used in the one from which it was taken. Before long one queen will be found missing.

We must remember that section production calls for comb builders, not merely honey storers. I have observed that the crowded condition in supers is best achieved only when there is a good laying queen below. We put new supers on top of old for a little while, until taken to, and then reverse positions later. A point to be guarded against is not to be too hasty in taking off the first sections. I saw some lovely primrose sections this season but every comb face had pin holes, because they had been taken from the bees before they were thoroughly finished.

A bee escape board with an escape in good working condition is essential to get bees out of supers quickly. The bee escape is put on as soon as one gets to the apiary in the morning, and the supers are generally ready for loading in the afternoon. They are stacked in the honey room until the first rainy day, then taken out and graded according to weight and put away.

Bees which have been busy in making section honey generally look after themselves well in the matter of stores. We find perhaps 20 pounds of sealed honey in the side combs. Then perhaps one feeding of syrup puts them right for winter. Of course, some of the queens will suffer from the strain of continuous laying that such production requires, and it pays to remove them and put young queens in when necessary.

Spa, England.

♦

COLONY BALANCE IN RELATION TO SWARMING

I have heard a number of beekeepers express the wish to know the cause of swarming. I have a theory that seems to work out. It is that bees gain in number in the spring, as honey and pollen allow until the queen reaches a limit through inability to lay or because of the limitation of comb.

The nurse bees stay in the hive for nineteen days, attending the unsealed larvae, and the larvae need attention from the day of hatching until final sealing, eight days later (six, in warm weather, since then only the cocoon covers the larvae. Often, they don't spin that, except on the sides). This leaves a surplus of eleven to thirteen bees that can take care of increased egg laying.

Now, if the season is right for a good build-up and no honeyflow develops before the bees have reached their capacity, they invariably prepare to swarm in six to eight days more. If the honeyflow sets in about that time, then it is always a bad year for swarming. This is the reason that good flows often mean heavy swarming. If there is flow enough beforehand to cause the nurse bees to build comb and take care of honey, then the proportion is broken up and there is less tendency to swarm. This accounts for a long, slow honeyflow, producing little swarming.

If the honeyflow begins before the six day period, then most likely the swarming fever will pass unless there is a lull. If the flow is intermittent and the bees gain on the off days until they reach a climax, they swarm.

You can stop swarming by division if both divisions have a queen that is capable of increasing the colony. To introduce a failing queen or poor queen, will invite swarming unless the bees supersede her.

Now the effect of building such a large force of bees is that during the flow the bees' mortality is so high that to make an enormous colony queenless at the beginning and not let them have a queen for three weeks is reducing them to the last three weeks period of emerging bees.

So, when a heavy flow lasts a long time, the queen, restricted in nurse bees that are busy with honey, loses instead of gains in egg laying until if the flow lasts over six weeks, the colony is reduced to the state of a nucleus.

The queen slacking off, leaves empty cells which the bees fill with honey. This is always noted when queen and brood are in the second hive body with empty combs below. If you do not super heavy, every cell that is empty will gain honey and eventually the brood nest becomes clogged.

So the lack of nurse bees controls the colony size in conjunction with the queen's laying ability. When you get a colony down to business gathering honey, you do not need to give any more attention to swarming unless the balance is upset. Those troubled with swarming should try to understand it.

By John Bruce
Chesterfield, Illinois.

HOW TO PREVENT SWARMING

By G. W. DEMAREE

[The Demaree system of management for swarm control or variations of it, has been widely adopted. During his lifetime, Demaree himself modified his system several times. This article is reprinted from American Bee Journal, Vol. XXIX, No. 17, p. 545, April 21, 1892. —Editor.]

WHEN discussing this subject the temptation to argue the question, rather than to rely on a simple description of the manipulation resorted to, to accomplish the object in view, is very great. So many apiarists have imbibed the idea that some sort of contraction of the brood nest is essential to the production of comb honey, if not the extracted article, that any new discovery that runs counter to this idea of contraction meets a deaf ear, if not open opposition.

Let me say, once for all, that when a new discovery is applied to an old system, it often becomes necessary to revise the old system to accommodate it to the newly-applied discovery. These remarks apply not exclusively to the old system of bee culture, but to all systems pertaining to all industries. Those persons who are determined to stick to the old paths of the past, are not in position to profit by any new discovery; and this essay is not written for that class of readers.

When your apiary is as large as you want it, what would you give to be able, by a simple, practical manipulation at the beginning of the swarming season, to hold all your colonies in full strength of working and breeding force steadily through the entire honey harvest? You can do it beyond a doubt, by practicing my new system of preventing swarming; and if you have the ingenuity to apply proper management to suit the new condition, your surplus yield will be larger than by any other method heretofore made known to the public.

I have practiced the new system largely for the past two seasons, and my surplus yield was never so large, though it is well known that the past two seasons were not above the average as honey-yielding seasons.

As I have already intimated, my plan of preventing swarming, and entirely preventing increase, is accomplished by one single manipulation right at the commencement of swarming. Only one hive and its outfit is used for each colony. Any system that requires a divided condition of the colony, using two or more hives, is not worthy of a thought.

In my practice, I begin with the strongest colonies and transfer the combs containing brood from the brood chamber to an upper story above the queen excluder. One comb containing some unsealed brood and eggs is left in the brood chamber as a start for the queen. I fill out the brood chamber with empty combs, as I have a full outfit for my apiary. But full frames of foundation, or even starters, may be used in the absence of drawn combs.

When the manipulation is completed, the colony has all of its brood with the queen, only its condition is altered. The queen has a new brood nest below the excluder, while the combs of brood are in the center of the super, with the sides filled out with empty combs above the queen excluder.

In twenty-one days all the brood will be hatched out above the excluder, and the bees will begin to hatch in the queen's chamber below the excluder; so a continuous succession of young bees is well sustained.

If my object is to take the honey with the extractor, I tier up with a surplus of extracting combs as fast as the large colony needed the room to store surplus. Usually, the combs above the excluder will be filled with honey by the time all the bees are hatched out, and no system is as sure to give one set of combs full of honey for the extractor in the very poorest seasons; and if the season is propitious, the yield will be enormous under proper management.

The great economy of this system is, all the colonies will produce as nearly alike as can well be—a condition of things that never occurs in any apiary swayed by the swarming impulse. If my object is fancy comb honey, I tier the section cases on the super that contains the brood, and push the bees to start all the combs they can; at the close of the season I extract the honey from the combs in the super, and feed it back to properly prepared colonies to have the partly-filled sections completed. The nicest honey in sections that I ever produced was obtained in this way.

To feed back successfully, requires as much experience as any other work connected with the art of producing honey, but the theme is too broad for a place in this connection.

The system above described works perfectly if applied immediately after a swarm issues. The only difference in the manipulation in this case is, that no brood or eggs is left in the brood nest, where the swarm is hived back.

REPELLENTS IN SPRAY

Sometime previous to 1928, a substance known as "Milkol" was recommended as an additional ingredient of the regular spray for fruit trees at blossoming time, especially the "calyx-cup" or "petal-drop" spray usually applied when about three-fourths of the petals have fallen. This regular spray is applied at this time before the calyx cup closes, in order to fill it with poison to kill the worms as the majority of the hatching brood enters by that point. For a number of years, this repellent was used by the Kickapoo Valley Orchards, at Gays Mills, Wisconsin. They reported to the writer that they had no complaints from beekeepers when the repellent was used.

Bourne, of the Massachusetts Agricultural Experiment Station, has recommended the use of nicotine sulphate at the regular spraying strength (1:800) as a repellent in the regular calyx-cup spray of lead arsenate. However, the expense has probably limited the use in this manner.

Within the last few years "Black Leaf 155" has been used and recommended especially for the later or cover sprays following lead arsenate in the calyx spray and in some instances as a substitute for the calyx spray of lead arsenate. It is especially recommended for early maturing varieties of apples. Black Leaf, 155, being a nicotine compound, therefore shows possibility in the prevention of spray poisoning, since it forms a residual repellent.

V. G. Milum,
University of Illinois.

AMERICAN HONEY INSTITUTE NEWS

The following is an excerpt from the opening commercial on March 25, of "Young Dr. Malone" program sponsored by General Foods Sales Company, Inc.

"——so mother, when marketing today, buy Post's Bran Flakes and while you're about it, get a Jar or Comb of Honey to serve with your Post's Bran Muffins. You know, Honey is a wholesome natural sweet, a splendid energy source and highly nutritional for your family. Why not plan to surprise the folks with Post's Bran Muffins and Honey for breakfast? And starting tomorrow, join the millions who eat Post's Bran Flakes regularly. For remember—'Life is swell when you keep well!' "

♦

Did you read the artcle on Honey in the Sunday edition, March 24 of New York Times?

♦

On the "Women of Tomorrow" program this little squib went over the air on March 29. "By the way this week there's a slogan being sent around to and by the food experts suggesting 'Honey--for--Breakfast'. You might try honey and cream on your CREAM OF RICE—it's delicious with cereals, as well as on grapefruit, baked apples and other fruit."

♦

We have designed something a bit different in a recipe folder for the honey folk of the nation. A six page leaflet to fit in the cover of a five pound pail. We will not have these folders gummed because they fit snugly. If you desire you may fasten these a bit more securely by using a strip of Cellulose tape. Send for a sample with prices.

♦

Among the recipes included in the above folder will be one for Honey Cinnamon Toast which is making a big hit with college students. This toast is made the way we like it in our homes.

♦

How many of you would be interested in a window streamer featuring honey for sweetening summer drinks such as lemonade and iced coffee? This would help keep honey before the consumer, during the summer months, one dollar per one hundred.

♦

Word is being received from all sections of the country that the March issue of Institute Inklings is the best up to date. If you did not receive a copy please write to us and we shall be pleased to send you a copy.

♦

Pillsbury Flour Mills Company recently issued a pamphlet containing Tested Formulas for Whole Wheat Breads and Whole Wheat Specialties in which Honey is incorporated as an ingredient.

♦

Proctor and Gamble Baking School booklet contains a fine recipe for Honey Cocoanut Cookies and a Honey Glaze for doughnuts. Honey Macaroon Cake and Honey Macaroon Icing are included in this excellent booklet. Bakers will also want to make the whole wheat pie crust which contains honey.

♦

The Institute hopes to receive the cooperation of the Poultry Industry by having them publish a recipe for Honey Angel Food Cake on their cartons. Have you tried this cake?

♦

Word has come to the Institute that the recipe "Fig Newton" featured on page 3 of the March issue of Inklings is one of the best recipes that the Institute has. This recipe is also found in the Institute's "Honey Cookies" leaflet.

♦

Do you send new babies a jar of honey? Did you read the article on "Infant Feeding" on page 4 of Institute Inklings? Remember to ask your grocer to place honey in the Baby Food Section, Baby Week April 29 to May 4.

May 5 to 11 is Raisin Week. Bakers will add flavor to their breads and cakes by soaking raisins in honey before adding them to the batter.

♦

A syndicated column that will appear in two hundred newspapers in eleven western states will have one or two quite interesting stories on Honey under the title "Meals-Miles-and-Merrill.

♦

When Mr. Blank puts his honey in a grocery store at thirty-nine cents per five pound pail, why not experiment a little. Ask the grocer to put in a mass display of your honey (use a dummy display for part if necessary) and charge fifty-two cents or sixty cents for your honey. See how much faster the honey with the higher price moves.

♦

Beekeepers are making a growing and important contribution to the country's natural resources. The industry is of paramount importance.

♦

A WAY TO PACK QUEENS FOR SHIPMENT

For shipments of twenty-five or more queens, the following is a good pack: Take a closed-end bee cage and remove the wire from one side. Cut a cardboard to fit inside and place it against the remaining wire of the cage. Crumple up newspapers and put in the bottom of a cage to form a cushion. On top place a cardboard strip. Stack the regular queen cages with queens and attendants on this cardboard, with the perforated metal out. Use additional newspapers to take up space above the cages, or cut a piece of lath to fit inside and hold with nails at either end of the large cage. Tack on your wire which you originally removed and ship this container by express. The best shipment of queens I ever saw came this way, 100 per cent in every respect. It originated in central Texas.

Harry Harberg,
Halsted, Minnesota.

THIS AND THAT • • FROM HERE AND THERE

HONEY AT $3.00 A LB.

Still much publicity comes in concerning the purchase by G. G. Puett, of Hahira, Georgia, of a pound of Michigan honey for $3.00, the most expensive pound of honey known to agricultural history. Three dollars was paid for a section of comb honey in an auction at the annual meeting of the Michigan Association in January. The United Press, Associated Press, and other news agencies, seized on this great news like the familiar story of a man biting the dog.

♦

EXPORTS TO THE UNITED STATES FROM CUBA

In "Foodstuffs Round The World," February 23, exports of Cuban honey to the United States in 1939 totaled 158,294 pounds, a small increase compared with 1938. Exports of beeswax, however, increased from 397,650 pounds in 1938 to 635,938 pounds in 1939.

♦

HONEY OR HORMONES

"Potash News Letter" of American Potash Institute, Inc., under this title calls the attention of florists, nurserymen, fertilizer manufacturers and others to the use of honey to stimulate the growth of cuttings of evergreens and chrysanthemums.

This work with honey was reported by R. W. Oliver of the Division of Horticulture, Dominion Experimental Farm Service in our April issue.

♦

STANDARDIZE EGGS; WHY NOT HONEY?

In "Foodstuffs Round the World" for July 10, 1938, eggs are cited as a universal food, produced in every country, served in more variations and combinations than any other product ranging from the "ancient" preserved egg of China, requiring burial for months to "ripen" to the three-minute egg of today. The egg still is and probably will remain the principal component of the American breakfast.

The per capita consumption in the United States is 230 eggs per person per year, the second largest in the world, eighty-seven per cent for table service in the home and in public eating places, and only six per cent in the manufacture of foods.

Quality, standards, and marketing for eggs have been made practically uniform throughout the world.

So it goes. Notice the emphasized sentence. Honey, once standardized, may become a compliment of the egg on the breakfast table of America.

♦

INDIANA LOSSES

I fear that my previous estimate of an average 25% loss of all colonies in Indiana is too low. After a swing to the south where the losses have been extra heavy and the receipt of some recent reports from Randolph and other eastern counties, indications are that the losses will more likely run to 30% or even 50%. This is a terrible blow. Many colonies are so weakened they might as well be dead. Many of those will wink out between now and June first unless they receive special care.

James E. Starkey,
Indiana Association
News Letter for April.

♦

HONEY FROM WILD RICE

My home, "Cloverlawn," is on the Charles River, formerly dammed near my home to make what is known as Factory Pond. When we moved here in 1920, the pond was four hundred feet wide and almost a quarter mile long. Since then, the dam has been washed away and the pond is much smaller.

Two or three years ago, hunters sowed wild rice to attract ducks and the pond is filled with it. During the past season, from the middle of July until nearly the middle of August, the bees gathered an abundance of heavy bodied light honey. I was ill at the time and was amazed at what the bees did, since that is usually a period of starvation.

My neighbor told me he found the bees fairly swarming over the wild rice which was nearly through blooming when I recovered from my illness. I sent my grandsons down to the the river with field glasses and they saw bees on the rice.

At the time, we were in the midst of one of the worst droughts I have known here in New England. I wonder if this fine honey came from wild rice. The rice spreads tremendously, growing six or seven feet high.

Edwin F. Tuttle,
Milford, Mass.

♦

FINLAY PREDICTS BIG DEVELOPMENTS IN PRINCE GEORGE

Possibilities of a new honey producing empire in northern British Columbia in the Prince George district are seen by A. W. Finlay, provincial apiarist, as a result of surveys and tests in that territory which reveals that thousands of acres are suitable for clover seed production, and consequently, more beekeeping.

Mr. Finlay reports: "The Prince George area would be primarily a clover seed district and the bees would only be a sideline. It is not a district yet for honey producers to enter, but rather for seed growers." He says some experimental bee locations may be stationed in that district this year.

"Geographically, the lower areas of the province are well filled with bees and there is not much room for expansion. This means that the Prince George area may eventually provide the needed territory for commercial honey production."

Last year British Columbia's honey production totalled 1,500,000 pounds but this is only half the annual consumption of the province. The balance must be imported from the East. The per capita consumption in British Columbia is three pounds

against two pounds in the rest of the Dominion.

Conditions for a crop in 1940 are favorable, although mild weather has caused the bees to be more active than they are usually, and consequently, they used more stores. Mr. Finlay warns beekeepers to check their colonies to see that they have enough honey or sugar to last.

As a result of a recent convention in Seattle, in cooperation with the Washington honey producers, plans are on foot to establish an inspection system to work in harmony between the province and the state of Washington in the control of disease.

F. H. Fullerton,
British Columbia.

♦

WASHINGTON

Reports from all over the state are that bees have wintered well, and in some localities exceptionally well. On the west side of the Cascades, dandelion, wild mustard, Oregon grape, filberts and pussy willows are furnishing pollen and nectar, although, because of rainy weather, bees have not worked much. The east side reports are that bees are in fine condition with plenty of stores, with pussy willows, apricot, cherry and peach bloom furnishing nectar and pollen, with good working weather.

In the Yakima Valley, beekeepers are busy now placing bees for orchard pollination both in the Yakima district and Wenatchee.

A great deal of interest and enthusiasm is shown throughout the state in the organization of regional, county, and local associations, holding bee schools and field meets and providing radio talks. News on beekeeping in the daily and weekly newspapers and farm papers is increasing. It looks as though the industry in this state is staging a come-back in popularity. Quite an effort has been made to advertise "Honey for Breakfast" week.

Mrs. Eva Wixom, Secretary,
Wash. State Beekeepers Ass'n.

♦

TENNESSEE LOSSES

Winter losses in Tennessee due, no doubt, to weak colonies going into winter, and to removing too much honey, particularly among box hive beekeepers (we still have some yet!) have amounted to about one sixth of all colonies. We expect swarms to make up the difference. Rainfall during February brought the year's average up to normal.

Carl M. Teasley,
Tennessee.

♦

NECTAR MAKES "JITTERBUGS" OF BEES

A United Press release under this title turned up in many places. The one we have here is from Carl M. Teasley, Ooltewah, Tennessee.

According to it, the bees of the Smithsonian Institution are jitterbugs with a purpose, and that purpose is conversation. "If you ever catch a bee in the midst of a hot jive it merely is telling its fellows that there is nectar over yonder. If the bee does not have its heart in the dance, the nectar cache is only medium good and you can take it or leave it."

Prof. K. Van Frisch, of Munich, made this discovery about dancing bees. The clipping goes on to tell his experiments in feeding syrup and the study he made of the behavior of bees which resulted in the story of the nectar dance.

Dr. Park in this country, (Iowa State College) has also written to some extent on the nectar and water dance of bees. Evidently this is a means of communication, but what beekeeper has ever been able to interpret the language!

♦

MILLER MEMORIAL LIBRARY

The history of American beekeeping is as romantic as the development of America itself. And beekeepers everywhere should keep in mind the filing of historical data, whether it be letters, patents, or other items, because we never know when one of these documents may be important. Requests are continually received at the library for information on one subject or another. Sometimes we are able to give this information and other times not, because we lack the records.

During the past year two important items have come to the library—one a book by J. L. Eyrich who founded the Franconian Beekeepers Association in Germany about 1770. Just recently we have received from David F. Moore, of Humeston, Iowa, a copy of a patent on a hive issued to his father, Samuel C. Moore, in 1871. This hive, containing movable frames, was important because it was probably the only patented hive with a moth trap to prevent the beeswax moth entering the hive.

Be sure to keep the library in mind at all times and send in items of this kind whether they seem to be important or not.

H. F. Wilson,
Madison, Wisconsin.

♦

S. D. SMITH

We have been informed of the death of S. D. Smith, of College Place, Washington. He was sixty-six years old and his immediate death was the result of a heart attack following news of flood threatening his apiaries. He had been president of the College Place bank since 1922, and chairman of the deacons of the Seventh Day Adventist Church for over thirty years.

Following graduation from Walla Walla College, he was superintendent of the College Farm until he entered beekeeping in 1909. He was not only an outstanding beekeeper, but one of the largest in the state of Washington. He was a member of the state association.

Besides his wife, he is survived by four children, Ralph, who was with him in the beekeeping business; Mrs. Culley, Mrs. Lansing, of College Place; and Miss Smith, of Los Angeles.

♦

"THE MIND OF THE BEES"

Methuen & Co., publishers, of London, England, have recently issued a book entitled, "The Mind of the Bees" which is an account of scientific experiments to determine the capabilities of the bees. The author is Julien Francon who tells us what the bees do, even though we are sometimes far from understanding how they do it.

The book contains much of scientific interest, yet is easy to read and understand.

The price of the book which is bound in cloth and contains 146 pages is 6s or about $1.50 in our money.

COTTONSEED MEAL

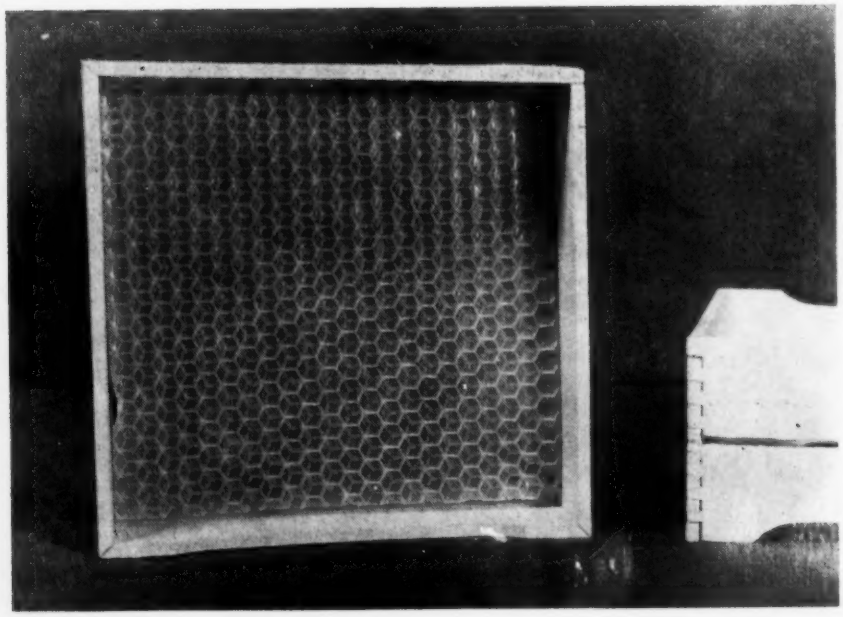
This picture shows my boy watching the bees take cottonseed meal as a pollen substitute. At the time the temperature was 32 degrees in the shade but it was warmer where the bees were because of the sun. The bees are dark and of uncertain breed, but I believe better adapted to my climate than yellow ones.

Clyde N. Wood,
Vermont.

(Cottonseed meal is used as a pollen substitute. However, according to the work of Dr. Haydak in Minnesota, the best substitute so far is a mixture of soy bean flour and dried milk.—Editor.)

—— ♦ ——

TOP-SPLIT SECTION



Here is a section with foundation put in according to my way. The section is split through one side at the dovetail. The sheet of foundation is hung through this split, sheet size and the section folded.

Clyde N. Wood, Vermont.

(A good way. However, this brings the dovetail at the top of the section requiring careful handling in removal. Also, it is not quite so sightly as when dovetail is at the bottom. Otherwise, it is quite satisfactory. —Editor.)

MOVING BEES A SHORT DISTANCE

Moving bees is not a natural operation and a beekeeper should give it careful consideration. Bees never change their location normally except when they swarm.

However, there are times when the beekeeper must move bees from a few feet to several miles. Long moves do not confuse the bees, but short ones do, since they will, of course, return to their old location and confusion results.

The worst time for short moves is during a honeyflow or immediately afterward. There are many bees then in the hive accustomed to the location and so returning is a persistent factor.

The best time to move short distances is when bees are relatively idle and have little or no brood to care for. After brood rearing starts in the spring, the bees will frequently search water eargerly and so moving becomes difficult because those rapid flights from the hive at this time make the establishment of the location a fixed factor hard to break up.

Time, therefore, has a large effect on the amount of return to an old location. I dislike to move bees after they begin to gather pollen and water. I prefer to move them some time after brood rearing in the fall or before brood rearing in the spring. Choose a morning when it is likely to be warm enough for them to fly and not cold enough to chill the bees. Any drift that then takes place will be absorbed by the surrounding colonies.

Bees may then be moved with little concern over the old location. There are many things to cause bees to mark their new locations, such as leaning boards in front of the entrance, smoking, drumming and disturbance. The best results for me have been the use of an old dark comb like a shallow extracting comb with a hole in it about the size of a pea. This comb is placed so it will come right over the entrance when the comb is leaned in front of the hive. Bees with such a marker fly less in relocating than colonies not so marked.

George H. Williams,
Reidsville, N. C.

MEETINGS AND EVENTS

Middlesex County, May 25

The first field meeting this year of the Middlesex County (Massachusetts) Beekeepers Association will be held at 2 P. M. on Saturday, May 25, at 30 Spring Street, Lexington. Mrs. W. M. Copeland, president of the Ladies Auxiliary will be hostess, and Mr. Copeland, president of the Massachusetts Federation of Beekeepers Societies will be host. Miss Irene McCollister, of Ayer will open the hives and speak on comb honey production. Those who attend will bring box suppers.

A. M. Southwick,
President.

Iowa Short Course, May 16-17

The annual short course for beekeepers will be held in Ames on May 16 and 17. Mr. J. W. Newton, of Baton Rouge, Louisiana, will be the guest speaker for this year's program. It is proposed by Mr. Newton that his talks to Iowa beekeepers will be of a demonstration nature of the methods which he believes are conducive to developing good stock, both from the standpoint of inheritance and from the standpoint of well-reared individuals. He will also give demonstrations of methods which give best results in preparing package bees for shipment to northern producers. The general theme of the short course will be better stock.

The short course lectures are open to anyone who is interested in honey production. There is no fee charged for attending any or all of the lectures. Topics of interest to Iowa producers will be presented by state leaders, and ample opportunity will be given to visit the college experimental apiary.

F. B. Paddock,
Extension Apiarist.

Washington State

In Washington State, four new regional beekeepers' associations have been formed during the past year. Our new honey law has revived an interest in beekeeping and a real hope among the beekeepers. During May, a field day is being held in many localities. The county extension agents and beekeepers' associations are cooperating in putting on a program.

Elizabeth Dickerson,
Publicity Committee,
Wash. State Beekeepers Ass'n.

Lorain County, May 13

The Lorain County (Ohio) Beekeepers Association will meet in Amherst at the home of E. J. Ernst on Monday evening, May 13 at 8 o'clock. The Ernst home is located on Route 2, North Ridge Road.

Geo. E. Yost,
Secretary-Treasurer.

Michigan State, August 1-2

The Michigan State Beekeepers Association will hold its 75th Diamond Jubilee meeting on August 1 and 2, at Frankenmuth. The first session will be held the afternoon of August 1. This afternoon session is to accommodate those who have come long distances and wish to arrive on the day before the regular meeting begins. The regular meeting will begin the morning of August 2 with a schedule of talks to continue throughout the day. A banquet will be held in the evening with one of the world famous Frankenmuth chicken dinners, country style. The meeting will be held outdoors in an exceptionally fine park. The complete program will be announced at a later date.

Our 75th year as an association is something to be proud of and we hope that all Michigan beekeepers will give us their support. We wish to extend a special invitation to all out-of-state beekeepers, and we hope that there will be many with us as in the past.

A. Baxter C. Woodman,
Treasurer.

Keep These Dates in Mind

Eastern Wisconsin Meeting at Menomonee Falls, Wednesday, July 24.

Western Wisconsin meeting, Ladysmith, Friday, July 26.

H. J. Rahmlow,
Secretary,
Wisconsin Beekeepers Ass'n.

Montana Association

On March 21, the Montana State Beekeepers Association met in Bozeman and elected officers and directors. The need for restoration of the office of state inspector was stressed by all who were present, and a program was mapped out, which, it is hoped, will lead to that end. A resolution was passed asking the commissioner of agriculture to advise the inspectors at the ports of entry into Montana to stop bees on combs when not accompanied by proper health certificates and authority for moving into the state, authority to be given by the Montana Department of Agriculture. The next annual meeting of the association will be held at Bozeman next November.

Willard A. Bell,
President.

Wisconsin Associations

A. L. Kleeber was elected president of the Sauk County Beekeepers' Association at the annual meeting held April 11 at the Fred Paddock home near Baraboo, Wisconsin. Other officers named are Fred Paddock, vice-president, and Viola Schultz, secretary-treasurer.

Speakers at the meeting included A. C. Allen, Portage, who discussed two experiments, one on pollen and the other on two-queen colonies, which are being conducted at the University of Wisconsin.

* * *

Robert Knutson, Ladysmith, was elected president; H. O. Rodeske, Fountain City, was re-elected vice-president; and George Hotchkiss, Eau Claire, was named secretary-treasurer of the western district, Wisconsin Beekeepers' Association, at the annual meeting March 26 at the courthouse in Menomonie, Wisconsin.

H. J. Rahmlow, secretary of the Wisconsin Beekeepers Association and of the State Horticultural Society, was the main speaker. He showed motion pictures of one-man extraction methods, and discussed the effect of pollen on swarm control and strong colonies. He also spoke on wintering bees, installing package bees and the use of soy bean flour for spring brood rearing.

C. D. Adams, chief apiary inspector, talked on the identification of bee diseases and the AFB eradication program for 1940. S. P. Elliott, Menomonie, retiring president of the association, discussed the clean-up of bee disease in Dunn County and made suggestions for better beekeeping. Henry Schaefer, Osseo, discussed the problems of the commercial beekeeper and proposed shortcuts in the work.

Plans were discussed for a summer meeting to be held in Ladysmith. Approximately 55 persons attended the sessions, which started in the morning and lasted all day.

* * *

The Manitowoc County Beekeepers Association re-elected all officers at its annual meeting March 29 at the village hall in Reedsville, Wisconsin, as follows: Reinhard Grimm, president; Emil Svatek, vice-president, and Fred Mack, secretary-treasurer. All are from Reedsville. Foulbrood

control was the chief topic of discussion at the meeting.

* * *

All officers of the Dodge County Beekeepers Association were re-elected at the annual meeting April 1 in the courthouse at Juneau, Wisconsin, as follows: Orrin Rex, Iron Ridge, president; Arthur Schultz, Woodland, vice-president; and Emerson Grebel, Beaver Dam, secretary-treasurer.

The association voted to hold monthly meetings with the next gathering scheduled to be held May 7 at the Mayville city hall.

* * *

The Wood County Beekeepers' Association at its annual meeting April 9 at the town hall in Richfield, Wisconsin, elected officers as follows: Rudolph McChesney, Bethel, president; Ernest Schroeder, Marshfield, vice-president; and J. H. Mills, Marshfield, secretary-treasurer.

H. C. Brunner.

♦

Taylor County

Thirty people attended the Taylor County (Wisconsin) Beekeepers Association meeting at Medford, March 25. C. D. Adams, Chief State Apiary Inspector, and James Gwin, of the Department of Agriculture and Markets, were the principal speakers. Mr. Adams discussed the work of the local inspector and what help he can expect from the state controlling American foulbrood. Mr. Gwin spoke on grading and marketing honey. We have at present twenty-two active members for 1940. Our next meeting will be in June at the home of our president, Fred Matson, who has an apiary of about sixty-five colonies.

John C. Pagel,
Secretary.

♦

Minutes of the Fourth Annual Meeting of the Apiary Inspectors of the North Central States.

The fourth annual meeting of the Apiary Inspectors of the North Central States was held on the morning of March 22, 1940, in the Purdue Union Building, Purdue University, West Lafayette, Indiana. This meeting was called to order at 8:00 A. M. by Chairman R. L. Parker, who acted as secretary pro tem.

The members present were J. A. Munro, of Fargo, North Dakota; A. O. Ruggles, St. Paul, Minnesota; E. L. Chambers, Madison; L. M. Gates, Lincoln, Nebraska; R. L. Parker, Manhattan, Kansas; and W. A. Price of Lexington, Kentucky.

The merits of the model apiary inspection law, prepared by Mr. J. I. Hambleton in October 1939, were read and discussed. The concensus of opinion in regard to this model apiary inspection law is stated in the following resolution. A motion was made by E. L. Chambers and seconded by L. M. Gates that the following resolution be sent to Mr. J. E. Starkey, of Indianapolis, Indiana, the president of Apiary Inspectors of America.

"Resolved that this model apiary inspection law leaves too much to be done by rules and regulations which are not an actual part of the law and such rules and regulations should be incorporated in a law as a part of it."

The motion in regard to this resolution passed unanimously.

Motion was made by J. A. Munro and seconded by E. L. Chambers that the certificates of apiary inspection be standardized in regard to the shipment inter-state of beekeepers' equipment and colonies of honeybees. Motion carried unanimously. The chairman appointed a committee to work upon this standardization of the apiary inspection certificates—E. L. Chambers and R. L. Parker.

Officers were elected for the ensuing year as follows:

Chairman—R. L. Parker
Vice-Chairman—C. A. Reese
Secretary-Treasurer—L. M. Gates.

L. M. Gates,
Secretary-Treasurer.

♦

RECENT DEATHS

We have just learned of the death of Glenn Hummer, of Prairie Point, Mississippi, who, with his father, the late Geo. A. Hummer, has been a prominent raiser and packer of queens and package bees for many years. He was still a young man and

HONEY SWEEPSTAKES AT MARYLAND FARM PRODUCTS SHOW

There were eight exhibits in the Annual Maryland Farm Products Show in Baltimore, January 8-12, competing for the best display, involving cash prizes totaling $165.00.

This year (1940) the exhibits belonged to: John Lindner, Cumberland, third place; P. M. Klavuhu, Cumberland, honorable mention; F. D. Covell, Ijamsville, fifth place; Byron Darby, Hyattstown, second place; Center exhibit shows types of honey sold in Maryland; L. B. Shearman, Glenarm first place; N. W. James, Baldwin, honorable mention; E. A. Andrews, Jr., Govans, fourth place; L. J. Hilgartner, Phoenix, honorable mention.

The picture shows only a portion of the exhibit, but included is Class No. 1 Best Displays. In this event winners of the six county fairs in Maryland bring in their prize winning regional entries to the sweepstakes at the end of the year so that it is a truly state-wide competition.

George J. Abrams,
College Park, Maryland.

had just taken his two sons in association in the business.

Many customers and friends of the Hummers will be saddened to learn of the death of Mr. Hummer, and we want to express our good wishes to the sons who are to continue in business.

G. W. Nance, who for many years was a well-known Iowa beekeeper, died on January 2. Mr. Nance attended the first convention of the Iowa Beekeepers Association held in Des Moines, in 1912.

B. E. Berryman, of Central City, Nebraska, died on March 19. At one time Mr. Berryman had the largest apiary in Nebraska in one location, with 350 colonies of bees. He was born at Hartford, Kentucky, in 1847, and came to Central City in 1871.

W. H. Pearson, of Mitchellville, Iowa, died on March 20, at the age of 82 years. He was a charter member of the Iowa Beekeepers Association and was long an exhibitor at the Iowa State Fair. Only two years ago did he give up active work in the apiary.

"The British Bee Journal," of March 7 informs us of the death of Samuel Simmins, Sussex beekeeper. He was 83 years of age at his death, and during his lifetime had acquired a considerable following in England. His principal work, "A Modern Bee Farm," which was first published in 1888 and last issued in 1928, is one of the larger works of beekeeping practice. There are a number of other works to his credit, most of them written before the turn of the century.

TAMPA PRIZE WINNER

Here is a picture of the honey exhibit which took first prize at the honey show at Florida State Fair at Tampa, January 30 to February 10. The exhibit was by Lake Conway Apiaries, owned by O. M. Bonar, of Pinecastle, which was a fine exhibit. Mr. Bonar certainly put in a great deal of time and expense in making it. He took it also to the Central Florida Exposition at Orlando and received the grand award as having the best exhibit in all classes on the fair grounds.

The Honey Show at the Florida Fair was better this year than ever before. There were six exhibits that were nearly equal. The judges had a difficult time in placing the awards. The premiums were given as follows: O. M. Bonar, Pinecastle, first; House and Haynes, Dunedin, second; Harold Struthers, Lake Wales, third; Ross Haynes, Dunedin, fourth; J. W. Reitz, Summerfield, fifth; R. C. Allen, Auburndale, sixth.

Robt. E. Foster,
Gainesville, Florida.

LARGEST MEMBERSHIP

The activities of state beekeepers' associations are of interest to all beekeepers. In order to hear more about some of our state associations and their membership, the Wisconsin Beekeepers Association issues a challenge by stating that it has the largest membership of any state association in the United States. We make this statement without knowing the facts, but as a challenge, and now let's hear from other states who claim to have larger memberships.

The Wisconsin Beekeepers Association was organized in 1878, just 62 years ago. It has been active ever since. Today it has 417 paid up members. Most of these members are affiliated through county and district beekeepers' associations. There are now 26 county associations affiliated with the state organization and these are divided into four districts.

The state association holds three meetings annually. During the latter part of July each year two state summer meetings are held, one in the eastern part of the state, and the other in the western section. They are held on consecutive days, the same speakers appearing on both programs. They are in the nature of a one-day picnic meeting with visits to extracting plants, bee yards, etc. The annual convention is held the last week in October, and it is a two-day meeting. The four districts each hold one or two meetings each year. The important one is the spring meeting in March or April when honey production problems are discussed by speakers.

The state association is affiliated with the Wisconsin State Horticultural Society, the secretary of the society being the corresponding secretary of the beekeepers' association. The magazine "Wisconsin Horticulture" contains a section called "Wisconsin Beekeeping," which is the official organ of the beekeepers' association and is published each month.

The state association membership has been on the increase in late years, though it is not now as high as in the good years just following the war. However, **no membership campaigns or drives are put on.** The association does not believe in drives, having found by experience that if a large number of members are obtained through a drive, they usually drop out anyhow at the end of the year. They feel that a good program of work, good meetings, and a good publication keeps the membership on the increase without fluctuation or much solicitation.

Now let's hear from other organizations.

H. J. Rahmlow,
Madison.

RESEARCH

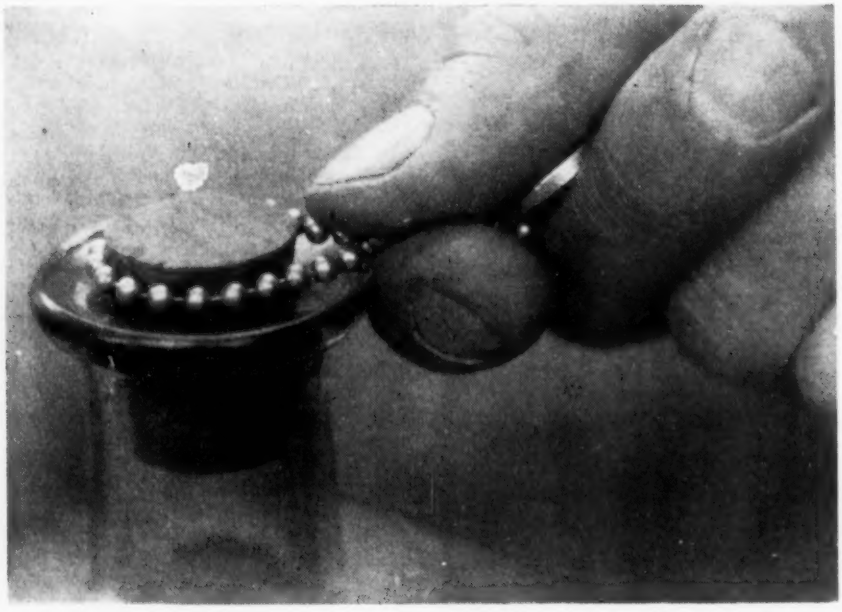
"Honey and the Lead Contamination Problem," by H. A. Schuette and A. J. Ihde has been issued as a reprint from "Food Research," 1939, Vol. 4, No. 6. The authors are of the Department of Chemistry, University of Wisconsin, Madison, Wisconsin. Their researches lead them to the following conclusions: "If extracting and processing equipment be kept in good repair, there seems to be little likelihood that lead need be considered a contaminant of honey. Contamination from sprays applied to orchards when in bloom and to fields of flowering plants is probably automatically taken care of by natural agencies in that bees soon succumb after having sipped nectar from these sources. Comb honey is uniformly free of lead. When lead is found in extracted honey packaged in glass, its source can probably be traced to agencies beyond the apiary. The same holds true also for the extracted product sold in tin pails and cans, although, of course, in either case responsibility still rests in part with the apiarist who uses old, improperly soldered equipment."

"Mineral Constituents of Honey. IV. Sodium and Potassium," by H. A. Schuette and Warren W. Woessner, Department of Chemistry, University of Wisconsin, is reprinted from "Food Research," 1939, Vol. 4, No. 4. This paper is the fourth in a series called "Mineral Constituents of Honey." Findings are: "That there probably exists a qualitative relationship between degree of pigmentation as measured by the current practice of color-grading this food and the quantity of sodium and potassium which it contains, appears to be permissible conclusion upon analyzing the data obtained in the examination of 31 honeys deemed to include representatives of most of the honey produced commercially in the United States. Viewed in the light of the data recorded in this report and in others of this series on the mineral constituents of honey, it appears, also, that potassium is the predominating constituent of ash. The following minima and maxima were found for the American honeys examined: sodium, 6 and 400 milligrams per kilogram, respectively, or .96 and 11.2 grams per 100 grams of ash; potassium, 100 and 4,733 milligrams per kilogram, respectively, or 18.5 and 70.8 grams per 100 grams of ash. All available data on this phase of honey composition have been collected and collated."

"Physical and Chemical Properties of California Honeys," by J. E. Eckert and H. W. Allinger is issued as Bulletin 631 by the University of California College of Agriculture, Agricultural Experiment Station, Berkeley, California. The authors summarize their work as follows: "Our studies have shown that honeybees in California produce a variety of honeys that differ in physical and chemical properties with the floral sources from which they are produced. Thirty-seven of these different types have been described and analyzed chemically, together with other samples of mixed origin . . . Analysis of all samples indicated that the average California honey consisted of the following components, in percentages of the total: moisture, 16.50; total sugar, 77.53; levulose, 40.41; dextrose, 34.54; sucrose, 2.53; dextrin, 0.91; ash 0.21; acid, 0.16; and undetermined, 4.72. The levulose: dextrose ration was 1.17, the weight per gallon 11.88 pounds, and color 49, or extra light amber . . .

The samples of honey conformed to all standards of quality set by the state and federal regulations with the exception of the ash content. The fact that 22.6 per cent of the samples here reported are above the legal maximum ash content would indicate that a greater tolerance in the official limits should be made in order to prevent discrimination against certain commercial honey . . "

KEY RING CHAIN TAKES OUT CORKS



Corks of the smaller sizes often, after a period of use, are found so deeply down in the neck of the bottle that the fingers will not get sufficient grip on the upper part to remove the cork. Prying at them with a knife or other sharp tool generally removed the whole top of the cork, particularly if the contents of the bottle are of a varnishlike nature.

If a suitable cork puller is not available, the light ball links of a flexible key chain can be made use of as shown in the picture. The cork is generally removed without damage.

Lay the chain around the neck and top of the cork, give it a half turn to tighten it, and press the small balls firm into the cork. Pull the chain around in a circular movement to twist on the cork.

These small chains are tough and strong, the balls spread the pressure evenly around the cork and the cork will loosen readily. One or two keys on the chain will not interfere and in fact they make a better grip for the fingers. Only a short amount of the cork top is necessary for the balls to sink into for a hold.

CUBAN HONEY MARKET

As a result of the outbreak of war in Europe, the market for honey in Cuba has been very much disturbed. All of the most important export markets are reported to have been cut off. Germany dropped out of the picture immediately after the

commencement of hostilities, and the Netherlands and Belgium, within a month following the outbreak.

The price level for Cuban honey also has been affected to an important degree by the war. Prior to September the price which had been prevailing was about $12.00 per 100 pounds, c. i. f. European ports. Soon after September 1 the price is reported dropped to $10.00 per 100 pounds.

For the continuance of the war it is believed that the local honey market will continue to be depressed as, the normal export being cut off and stocks accumulating not only in Cuba but in Brazil, Central America, Chile and other producing centers as well, the supply will greatly exceed the demand. There seems litte prospect that greatly increased demand will be developed in the United States or that trade on an increased scale will be possible with either the United Kingdom or France. Whether or not it will be possible to resume important shipments to the Netherlands, Belgium, Sweden, etc., is not yet known, but it appears doubtful.

—Foodstuffs Round the World.

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OLD AND NEW IN BEEKEEPING

(Continued from page 203)

of the studies now under way, the one most likely ultimately to be of greatest importance to commercial apiarists.

Side by side with scientific studies, commercial beekeeping is compelling a study of how to sell the honey which is produced. Erstwhile methods of house-to-house peddling, selling to grocers and roadside stands are no longer adequate to the amount of honey which is being produced. It has been necessary to create new markets and to establish an agency for further investigation of new markets. Unfortunately, this work has lagged behind the work of producing the honey; and a slow market has been the result. The fact that the industry for which this agency was created has not yet seen the need for it to the extent of offering more than quite limited support has not ceased to be an object of wonder on the part of many people. Since Moses Quinby's famous harvest, there have been commercial beekeepers; but seldom has the industry found itself in anything to compare with its present dilemma.

All the way through, from Dr. Farrar's studies on queen supersedure, down to somebody's idea of a quick way to nail frames, the beekeeping idustry undergoes change. Don't look back to the good old days; keep your eyes on the future.

H. C. Dadant.

THE NEW
BEEHIVE LINE
Now light in weight—with more label space. Available in ½ lb., 1 lb. and 2 lb.
HAZEL-ATLAS GLASS CO.
WHEELING, W. VA.
HONEY JARS
In designing jars especially for honey packers Hazel-Atlas stresses light weight crystal clear glass which displays the beauty of your product—and from a practical side, jars that are easily packed and labeled.
Write for Free Samples
MASTERLINE
Available in 5 oz. to 4 lb.

GOING STRONG!!

With greatly improved methods of queen rearing and a greater number of colonies from which to draw, we can give prompt and efficient service. All queens reared direct from the egg without grafting which method produces uniformly superior queens which are prolific and long lived, thus greatly increasing the honey yield. If you have never tried our queens, do so at once and you will become a regular customer. Many of our customers have ordered regularly for over 25 years. Remember we can ship queens every day in the year.

PRICES:—1 to 4, $1.00 each. 5 to 9, 95c each. 10 to 24, 90c each. 25 to 49, 85c each. 50 to 99, 80c each. 100 to 199, 75c each. 200 or more, 65c each. Breeding queens shipped in large cage with one pound of bees. $6.00 each. *Write for 1940 folder.*

JAY SMITH & SON Route 2 **FORT MYERS, FLORIDA**

SPOERRI'S GOLDENS
OR ITALIANS

Large, gentle, cold resisting, very little inclined to swarm, and SUPER-PRODUCTIVE! Every queen is young, fertile and personally reared.

SPECIAL PRICES—SUBJECT TO ADVANCE

No Discounts	May	After May
Queens—1 to 5	$ .75	$ .60
Queens, 5 and over		.50
2-lb. pkg. with queen	1.98	1.88
3-lb. pkg. with queen	2.58	2.43
Extra pound of bees	.60	.55

SPOERRI APIARIES
ST. BERNARD P. O., LOUISIANA

PACKAGE BEES
LEWIS-DADANT SUPPLIES
"A Quality Higher than Prices"
2-lbs. with untested queen $1.75
25 Lots $1.60
3-lbs. with untested queen $2.30
25 Lots $2.20
Full weight, young bees, no drones, safe delivery guaranteed, speedy service.
THREE-BAND ITALIAN.
Write for circular.
A. H. HARRIS
Route No. 5 JACKSON, TENN.

STRONG NUCLEI
Two nuclei in new painted, ten-frame hive bodies, each of four combs bees, with hatching brood, honey and 1940 laying queen $3.15 each nuclei. Our hive bodies have a sliding partition through the center, with screenwire top and bottom. Queens are loose and laying on arrival. Can ship any time you say. No disease.
Wm. Pieper & Sons, Gause, Texas

Look What a Bargain!
The same stock of Three Banded Italian Bees and Queens you have always got from Shaw & Homan, bred by the same breeder. We guarantee our customers to get full weight, young bees, young queens, quick delivery, and in first class condition.
If you don't believe we will treat you right just give us a trial.

2-lb. package with queen	$1.50
3-lb. package with queen	2.05
Queens, each	.40

HOMAN BROS. Shannon, Miss.

PACKAGE BEES AND QUEENS
Bright Three Banded Italians. Well improved stock. If you want the very best in bees that money can buy. A trial order will convince you that our loose queen package, prompt and safe delivery, is just what you have wished for.
2-lb. Pkg. with Loose Queen . . . $2.45
3-lb. Pkg. with Loose Queen . . . $3.15
Queens, each, 75c
TAYLOR APIARIES, LUVERNE, ALA.

SWARM CONTROL

(Continued from page 217)

for finishing as the flow diminishes.

One of the most common measures of swarm control is to examine all colonies every ten days and cut out queen cells. We used to do that too. We found by using the precautionary measures here given, at least, in extracted honey production, the number of colonies that swarm in the average year is not sufficient to pay for the labor involved in continuous examination.

It is relatively easy, however, to find queen cells when they are started in numbers as they are at swarming time. One can tip back the hive body, and look up through the bottoms of the combs, and if numerous cells are there in preparation to swarm, they can readily be seen. This is a quick, effective operation. Colonies that do not have swarm cells do not need to be again examined if the flow is on. Those which do have swarm cells need special attention.

Some colonies will persist in swarming in spite of everything. One sure way of ending swarming completely is to remove the queen from such a colony. Ten days later, examine the brood combs for queen cells which will have been built in the interval, and make sure that every one is removed. This is absolutely necessary. Introduce a new laying queen and the colony so treated, practically never swarms during the honeyflow.

Elsewhere in this issue are other suggestions for swarming. The article by Edgar Scholes contains many suggestions which are worth study. John Bruce's attempted analysis of swarming is a new idea worth considering. After all, the causes of swarming are more or less related and form a continuous chain of circumstances leading up to the actual issuance of the swarm. If bee behavior is sufficiently understood to recognize conditions which induce swarming and remove them, swarming will always be kept to a minimum.

One of the finest studies of swarming is in the United States Department of Agriculture bulletin No. 1198. No better analysis of swarming and swarm control is known. It is written by one of the world's famous comb honey producers, Geo. S. DeMuth, former Editor of "Gleanings in Bee Culture."

Hamilton, Illinois.

♦

HONEY COOPERATIVE

(Continued from page 212)

2. Be sure the manager is a live wire individual.

3. Make certain of a strong board of directors.

4. Develop a workable system of accounts.

5. Coordinate all efforts for complete cooperation between directors and members.

Since the organization of the cooperative in Ontario, similar organizations have been formed in Quebec, Manitoba, Saskatchewan and Alberta is organizing one also. There is also a small cooperative being organized in the eastern section of the province of Ontario.

There is unquestionably a general trend toward central packing. Beekeepers must be prepared for it. They must keep in step with the large corporations producing competitive products, attractively advertised and attractively packaged.

In Ontario not enough liquid and comb honey are being offered for sale. In the United States probably there is not enough granulated honey and comb honey for sale. The three common forms of honey should be produced and sold wherever there is demand for them.

At the present time Canada is considering organization of a Canadian Beekeepers' Council, which will handle all major producing and selling problems, and may eventually lead toward a central export selling agency through which all beekeepers and their organizations will ship their honey.

There is no question in our minds that similar organizations would succeed in the United States. With a cooperative in each state of the Union which produces a surplus, representatives could form a national association with centralized control. Then instead of having a hit and miss market, an unorganized product, and ruinous competing practice, honey would assume a dignity and a position of acceptance among consumers.

♦

UTAH LOSSES FROM SPRAY AND BAIT

According to Otto S. Grow, of the Rocky Mountain Honey Company, Davis County beekeepers suffered losses last year through the distribution of grasshopper bait. He thinks 85 per cent of the bees in the county were destroyed because of the wholesale spreading of the poison bait. He seeks aid from Davis County in purchasing 600 hives to replace his stock.

"Loss of our stock last year not only hurt us, but also hurt the fruit growers. The loss last year caused by grasshopper bait and poison spray was set at $18,000. Davis County commissioners are investigating ways of aiding the industry."

Glenn Perrins, Ogden, Utah.

Mountain Gray Bees

FOR MAY

Trust us with your rush orders, dependable bees and dependable service. 16 years breeding Caucasians only, prices 2-lb. pkg. with queen **$2.45**; 3-lb. pkg. with queen **$3.15**. Untested queens **75c** each. 15% discount to dealers and associations, no disease, all bees and service guaranteed, we appreciate your business.

BOLLING BEE CO. BOLLING, ALA.

Italian Bees and Queens

Full weight packages of young bees with young queens shipped either combless or on a frame of brood and honey.

2-lb. package . . $1.75
3-lb. package . . $2.25

We guarantee safe arrival and no disease.

MAYEUX BEE FARM HAMBURG, LA.

The BEST PACKAGE

to be had. About 75% baby bees, 25% teachers.
A good Italian queen raised right.
We try to make you money.
The VICTOR APIARIES, Goodrich, Texas

Peterson's Package Bees

ITALIAN OR CAUCASIAN

Dependable quality. Speedy service. Package with queen $1.50 and up. Inquiries solicited.

HONEY BEE APIARIES, SANDWICH, ILL.

MUTH'S *Money Saving* CATALOG

Big bonus discount for early orders. Send for your FREE copy today.

THE FRED. W. MUTH CO.
Pearl and Walnut Sts.
Cincinnati, Ohio

JENSEN'S QUALITY plus SERVICE

Eliminates uncertainty and disappointment. It costs no more to install the best packages and queens, but might spell the difference between a good crop and a miserable failure. Why take the chance?

Buy time tested bees and queens; proven by commercial honey producers from Coast to Coast, and from Central America to the far regions of Canada.

PRICES FROM MAY 15th

	Queens	2-lb. Pkgs. with 1940 queen	3-lb. Pkgs. with 1940 queen
1- 25	$.60	$2.00	$2.60
26- 50	.55	1.85	2.45
51-100	.50	1.70	2.30
101-up	.45	1.60	2.20

Booster Packages deduct price of queen.

Jensen's Apiaries :: Macon, Miss.

"Home of 'Magnolia State' Strain Italians."

FRESH FROM OUR YARDS

IMMEDIATE SHIPMENT

We specialize in giving prompt service to beekeepers who need bees at once or on a given date. We made no early heavy bookings so are prepared to ship within 48 hours after receipt of your order, often same day order is received.

ITALIAN BEES AND QUEENS

	Untested queens	2-lb. pkg. with queens	3-lb. pkg. with queens
1 to 5	$ .60	$2.00	$2.60
6 to 11	.55	1.85	2.45
12 or more	.50	1.75	2.35

Tested Queens **$1.20** each

For larger packages **60c** for each pound of bees. Queenless packages deduct price of queen.

Prices after May 20th, 15 per cent less.

CITRONELLE BEE CO. CITRONELLE, ALA.

OUR THREE-BANDED ITALIANS

will make your work more pleasant, more interesting, and will net you more money. Try our bees for that heavy yield this season. Prices, 3-lb. pkg. $3.15 2-lb. pkg. $2.45, queen 75c. Service and satisfaction guaranteed. We pay express on all shipments.

STRACENER APIARIES :: :: PRAIRIEVILLE, LA.

ITALIAN QUEENS
PACKAGES
ORCHARD
PACKAGES
NUCLEI

QUEENS, 65c each—TWO-POUND PACKAGE OF BEES, WITH QUEEN $2.25—THREE-POUND PACKAGE OF BEES, WITH QUEEN, $2.85—FOR NUCLEI ADD 70c PER COMB TO THE PACKAGE PRICE.

Will take honey or wax as payment for bees.
Orders filled promptly.

Homer W. Richard, 1411 Champnolle, Eldorado, Ark.

LEWIS-DADANT DEALERS (Continued from page 202)

NEW YORK—(Continued)

George O. Brown, Route No. 5, Lockport
Feed Service, Inc., 226 Union Street, Poughkeepsie
Clarence Hartman, 1867 State Street, Watertown
R. J. Staub & C. H. Shanebrook, Preble
Frederick Ludwig, 74 Columbia Street Mohawk

NORTH CAROLINA—

Griffin Feed & Seed Company, Monroe
Shelton's Feed Company, Hendersonville
Hopkins & Moore Supply Company, Reidsville
Ideal Paint & Hardware Company, Asheville
O. O. & Ray Rufty, Salisbury
R. L. Smith & Sons, Robersonville
Job P. Wyatt & Sons Company, Raleigh
Stanly Hardware Compan, Albemarle
Spruce Pine Store Company, Spruce Pine
E. S. Hull, Box 1235, Asheville
Thompson Brothers, Mountain Park
Mocksville Hardware Company, Mocksville
A. K. Queen, Chandler
Farmers & Merchants Supply Company, Charlotte
A. W. Preston, & Sons, Belew Creek
A. G. Draughon, Yadkinville
J. M. Miller Hardware Company, Stony Point
Quality Feed & Seed Store, Burlington
W. R. Patton, Morganton
S. L. Collins, 615 North Trade St., Winston-Salem
Church Hardware Company, North Wilkesboro
Stafford & Hastings, Kernersville
Smith Hardware Company, Goldsboro
C. H. Edwards Hardware House, Greenville

NORTH DAKOTA—

Fargo Seed House, Fargo
H. A. Schmitt, 1210 First Street N. W., Mandan
Economy Supply Station, Mooreton

OHIO—

W. A. Coulter, 972 Cleveland Avenue, Columbus
R. C. Bish, 229 Melmore Street, Tiffin
Ohio Horticultural Service, Inc., 2060 High St., Columbus
Cliffdale Water Garden, 8412 Memphis Ave., Brooklyn Village, Cleveland
L. A. Mills, Route No. 5, Greenville
D. H. Horst, Route No. 2, Marshallville
Paul F. Blackmore, Jeffersonville
Fred Fries, 125 South Third Street, Hamilton
S. C. Woodring, Port Clinton
Chas. A. Hoopes, 1661 S. Freedom Ave., Alliance
Mellinger Seed Company, 706 Market Street, Youngstown
Central Ohio Apiaries, Millersport
Claude M. Mohrman, 134 Middle Street, Wellington
Robert H. Graham, 1551 Home Avenue, Akron
Carl L. Blosser, 407 Fort Street, Bremen
Webb Prince, Route No. 1, Box 10, Clarksburg
Wendell P. Smith, 9866 Red Bank Road, Galena
Spriggs' Market, Jamestown
Frank Foit, Wellston
August Weber Company, Third & Seammel Streets, Marietta
Albert L. Arnold, Township Ave., Elmwood Place, Cincinnati
Forney's Stores, 1605 West Third Street, Dayton
Bumgarner Orchards, St. Clairville
McKnight Davis Hdwe. Store, 43 Court Street, Gallipolis
Dr. H. F. Brown, St. Paris

OKLAHOMA—

Horn Seed Company, 210 W. California Street, Oklahoma City
Muskogee Seed House, 110 North Main Street, Muskogee

OKLAHOMA—(Continued)

Ada Seed Company, Ada
Binding-Stevens Seed Company, 24 West First St., Tulsa

PENNSYLVANIA—

Chester Roberts, Sharpsville
Ulsh-Shinkel Hardware Co., 50 Valley Street, Lewistown
Earl E. Manges, Bard, P. O. Buffalo Mills
H. L. McElhaney, Jamestown
R. W. Coyer, Route No. 4, Slippery Rock
Floyd H. Sandt, Route No. 2, Easton
Quay Minnich, 156 North Main Street, Red Lion
Simeon B. Beiler, Box 117, Intercourse
Gay-Murray Company, 50 Bridge Street, Tunkhannock
Raymond W. Fisher, York Road, Route No. 1, Carlisle
Lund Apiaries, 756 East 21st Street, Erie
Oscar Farley, 89 Kinsey Street, Montgomery
Fred Crawford, Water Street, Everett
Wilt Hardware Store, Hollidaysburg
Shipmen's Feed Store, 471 Market Street, Williamsport
Waynesburg Hardware Co., Waynesburg
Abel's Seed House, 12 North Ninth Street, Reading
Hans Hoch, Route No. 1, Bernville
Orrtanna Canning Company, Orrtanna
M. C. Strauser, 120 East Main Street, Bloomsburg
Commons' Hardware Company, Nanty Glo
Critchfield Electric Company, Somerset

RHODE ISLAND—

Ralph P. Vaughn & Son, Greenwich Avenue, Apponaug

SOUTH CAROLINA—

Standard Feed & Seed Company, Anderson
Mahaffey Feed & Seed Store, 630 S. Main Street, Greenville
Holcombe Seed Store, Greenville
Nalley Lumber Company, Easley
Holcombe Hardware Company, Westminster
C. M. Branch Hardware Company, Chesterfield
L. J. Davis, 159 East Green Street, Honea Path
Ware Shoals Department Store, Ware Shoals
N. H. White, Orangeburg
Checkerboard Feed Store, 1411 Assembly Street, Columbia
Bright-Wilson Company, Inc., Greer
Wimberly Feed & Seed Store, Rock Hill
A. H. Ezell, Spartanburg
Laurens Hardware Company, Laurens
S. C. Plant & Seed Company, Conway
Enterprise Hardware Company, Walterboro
Andco Feed & Seed Company, Anderson
Giles Hardware, Lancaster

SOUTH DAKOTA—

Maxwell N. Main Hardware, Sioux Falls
M. W. Thompson, Toronto
Wm. Meier, Route No. 2, Box 4, Egan
A. G. Pastian, Brandon
Vermillion Honey Company, 1120 West Main Street, Vermillion
Economy Store, 65 Third Street, S. E., Huron
Hayes-Lucas Lumber Company, Madison

TENNESSEE—

D. R. Mayo Seed Company, 419 Wall Avenue, Knoxville
Guthrie-Bradley & Jones, Sweetwater
Clarksville Harness Company, 113 South Third Street, Clarksville
Kingsport Produce & Feed Company, 122 E. Market St., Kingsport
Chattanooga Seed Company, 500 Market Street, Chattanooga
Elizabethton Feed Store, Elizabethton
Security Feed & Seed Company, Johnson City
A. H. Harris, Route No. 5, Jackson

TEXAS

Hinkle Lumber Company, Paris
A. W. Bulay, Liberty
C. K. McDonald, Route No. 1, Box 447, Beaumont

VERMONT—

W. H. & W. S. Bristol, Vergennes
Carl J. Sykes, North Street Extension, Rutland
Roger S. Jones, Route No. 1, Hyde Park

VIRGINIA—

Bonham Brothers, Chilhowie
Danville Hardware Company, Danville
Diggs & Beadles, 603 East Marshall, Richmond
Wetsel Seed Company, Harrisonburg
Travis & Kelley, 103 Market Square, Roanoke
M. W. Hamilton, 8 Tam Street, Staunton
Pennington Hardware & Furniture Company, Pennington Gap
Vernon Graves, 801 Commerce Street, Fredericksburg
Law Brothers & Keck, Inc., Chatham
J. H. Tisinger & Sons, Mount Jackson
W. Grossman & Son, Petersburg
Tolley's Hardware Company, Lexington
W. H. Sproles, Benhams
Landon L. Gouchenour, Route No. 1, Box 48, Woodstock
Abingdon Service Station, Abingdon
Johnson's Hardware Company, Bedford
Wise Hardware & Furniture Company, Norton
Farmers Service Store, Waynesboro
Federal Lumber Company, North Tazewell
George Harrison, Jr., Purcellville
Henry Hangleman, Claremont
Hillsville Hardware Company, Hillsville

WEST VIRGINIA—

Frank P. Cook, Maud
L. L. Lee & Son, Inc., Ronceverte
Matoaka Hatchery, Matoaka
Burkhart & Carroll, Bluefield
Gwyn Brothers Apiary, Route No. 5, Fairmont
Farmers Hardware & Seed Company, 514 Virginia Street E., Charleston
Mrs. Effa Wade King, Blacksville
Roberts Hardware Company, Clarksburg
Cavendish-Cyrus Hardware Co., 521 Fourteenth Street W., Huntington
Abraham Shriver, Box 62, Wadestown

WISCONSIN—

H. Hodgson, Route No. 2, Box 81, Waukesha
F. Geele Hardware Company, Sheboygan
Kundert Brothers, Monroe
Schlafer Supply Company, 501 North Bates St., Appleton
W. R. Hinrichs, Verona
W. T. Sherman, Elkhorn
H. W. Knight, Box 276, Dalton
Central Wisconsin Seed Company, Waupaca
Michael L. Weis, Allenton
Wm. N. Miller, Dodgeville
W. Diehnelt, P. O. Box 60, Menomonee Falls
Taylor Lumber Company, Boscobel
Charles Jakel, Route No. 6, Curtiss
Powell Hardware, Palmyra
Angus Johnson, West Salem
Knaub & Wunderlich, Fountain City
Rall Manufacturing Company, Galesville
Frank Kopecky, Route No. 5, Box 473, Waukesha
A. C. Allen, Portage
Hugo L. Hauch, Route No. 2, West Bend
John Pagel, 141 Park Avenue, Medford
A. W. Schmidt Hardware, Oakfield
Roland R. Olson, Route No. 2, Box 55, Grantsburg

WYOMING—

Harry Ingalls, Basin
H. E. Bryant & Son, Box 484, Worland
Wyoming Honey Company, Douglas

G. B. LEWIS COMPANY

HOME OFFICE AND WORKS WATERTOWN, WISCONSIN

BRANCHES — ALBANY, NEW YORK LYNCHBURG, VIRGINIA SPRINGFIELD, OHIO SIOUX CITY, IOWA

CROP AND MARKET REPORT

Compiled by M. G. DADANT

Honey on Hand

The writer can say with assurance that there is far less honey on hand at this time than there was at the same time in 1939. In the entire eastern sections and the entire South, including Texas, honey stocks are well cleaned up except for slight stocks of some of the amber grades in New York and Texas. In the central western area, generally, honey is well cleaned up although there are a few large producers who are still holding a crop, asking approximately 5 cents for their honey. Perhaps the state of Colorado holds more honey proportionately than other states. Utah is a close second. In the Pacific coast area, the Imperial Valley still has considerable amber honey on hand but otherwise the crop is fairly well cleaned up.

Will Honey Clean Up?

Where there are any stocks left, the usual opinion is that all of the honey will be cleaned up before the new crop is available. As stated above, the only exceptions are Colorado, Utah, Arizona, and extreme southern California. However, even in these instances, it is apparent that the honey probably would clean up if it were not held in strong hands for a better price.

It is deplorable that honey is selling as low as it is, as buyers are still apparently able to get some stocks at 5 cents delivered although the usual price range is perhaps a little above 5 cents. The writer believes that never at this season of the year have there been apparent prospective buyers in as large a number as there are this year, still shopping around for a price. We expect honey to be sold, at least as closely as it has been for several years, before a new crop is available.

Bee Losses

Generally, there will be more colonies lost than usual. Losses in the New England states do not seem to be above average nor do we see any signs of heavy losses in the southeastern sections or throughout the South. Ranging from New York westward, the figures apparently are more than usual, running probably at an average of around 20 per cent with some losses as high as 60 per cent. This will cover the entire Central West, with Indiana probably the heaviest sufferer. As we get into the northern areas of Michigan, Wisconsin, and Minnesota, and into the northern intermountain territory, the losses apparently are fewer—probably 10 to 15 per cent. This intermountain territory, including Utah, Nevada, etc., does not seem to have had above average losses nor do the Pacific Coast states.

The significant thing is that in the central western areas, made up mostly of moderate sized beekeepers, there do not seem to be indications of heavy buying of package bees that we find among the larger producers. The lower price of honey has made the margin insignificant for the smaller beekeeper and he is loath to spend money for new packages unless he can see a profit coming from them.

Condition of Bees

We believe we can say that the condition of bees generally is below average. In the southern states, the two cold spells set both vegetation and bees back and, although colonies are in excellent condition, they are backward. Some shippers are having difficulty in filling their package bee orders on time. In the northern areas where there was anticipation of a long cold spell, conditions are not any different from the ordinary year. In Indiana, Illinois, Iowa, and into Kansas and Nebraska, condition of bees is, in many cases, below normal. We would anticipate that on April 25, condition of bees will average throughout the United States not over 80 per cent of normal—the main exception being in the intermountain territory where bees seem to be in as good condition, if not better, than a year ago.

Condition of Plants

The long dry spell last year and the resulting damage to the clover plants made most beekeepers feel blue. This, combined with the fact that there was not a heavy stand of white clover in 1939, indicates that the possibilities for 1940 are not very rosy. Such is the case.

However, rains in late winter have helped considerably and throughout the northern sections, particularly the conditions will possibly come back toward normal, or at least they will be as good as those of 1939.

We must all remember that throughout the white clover areas, drought struck the honey yielding sections just previous to clover bloom, and the clover crop to a large extent was a failure. Favorable weather this year to build up the plants for June and July bloom might bring entirely different conditions and a much better flow than can be anticipated in advance.

The northern areas have suffered from drought, but late rains and snows have very much increased the possibility of a honeyflow.

The intermountain territory apparently is having plenty of snow for irrigation purposes and an average crop at least is looked for.

It is in California, and the Pacific slope states that conditions are far above normal. Some of our reporters are stating that conditions are 250 per cent of last year and in only one case do we have a report of conditions at least as short as last year. It is apparent, therefore, if the weather breaks right from now on, that California should have a very fine crop although the condition of the sage plants is still doubtful. Northern California, particularly, has been favored, and the beekeepers are very optimistic.

Summary

All in all, it seems that honey will be more nearly sold out than it was a year ago. The percentages of colony losses for the winter have been heavy, and likely there is not going to be more than enough increase to make up winter losses. We can look for no more bees than a year ago, and perhaps for less. The bees which have come through are not in as good condition as bees were a year ago at this time and will have difficulty in building up for the earlier flows.

Condition of plants likely is not over 75 per cent of 1939; however, it is possible that favorable weather and moisture may make for a better crop throughout all of these areas if the colonies are built up satisfactorily.

Apparently California is going to have a good crop and we may possibly need it to supply the honey demand until the later crops come in if honey moves as rapidly out the producers' hands as it has during the past thirty days.

The writer can only repeat the statements he made last fall to the effect that the 1938 carryover and the 1939 crop would indicate that all would be disposed of before the 1940 crop was ready and that, such being the case, the honey prices should be maintained at a satisfactory level. It is deplorable that conditions have existed to make for lower honey prices. We believe some of the packers can be very severely criticized, and we refer not only to the larger but also to some of the smaller packers who have cut the price "to the bone" in order to try to run out competitors.

WANTED — HONEY
Jewett & Sherman Co.
Milwaukee, Cleveland, Kansas City, Brooklyn

HONEY WANTED Cars and less than cars Mail Samples
C. W. AEPPLER CO., Oconomowoc, Wisconsin

Iverson Honey Company (Not Inc.)
Successors to
Edwin H. Guertin, 201 N. Wells St., Chicago
Extracted Honey bought and sold
Reference: First National Bank of Chicago

THE MARKET PLACE

BEES AND QUEENS

WE ARE CAUCASIAN BEE SPECIALISTS. Write for interesting folder containing prices. CAUCASIAN APIARIES OF CALIFORNIA, RIPON, CALIF.

GOLDENS solid yellow to tip. Health and improvement in length. Untested 75c; tested $1.50. Satisfaction guaranteed. H. G. Karns, Rt. 2, Glen Allen, Va.

GOLDEN ITALIAN QUEENS producing large beautiful bees solid yellow to tip, untested 75 cents; select $1.00. H. C. White Apiaries, Sandia, Texas.

GOLDEN ITALIAN BEES AND QUEENS of fine quality and extra good workers. A trial order will convince you. Carolina Bee Farm, Graham, N. C.

ON RECEIPT OF ORDER Italian bees and queen, each package contains an untested queen; 2-lb. package $2.45; 3-lb. package $3.15; 15% discount to dealers, safe arrival and healthy bees guaranteed; queens only 75c each. Oscar Arnouville, Hamburg, La.

UNEXCELLED quality Italian bees and queens, 2-lb. pkg. with queen $1.95; 3-lb. pkg. with queen $2.50, untested young laying queen 55c; ten or more packages or queens 10% discount. Attractive prices on bulk bees in large quantities. Health certificate, full weight, safe arrival, satisfaction guaranteed. Sowhatchee Apiaries, Hilton, Ga.

PACKAGE BEES AND QUEENS. My colonies are full of young bees wanting to work. They will please you and so will the prices. D. P. Green, Deland, Florida.

MACK'S QUEENS—3 band Italians only. May 75c each, after June 1st 50c each. 25 years as a breeder is your assurance of getting fine queens, fully guaranteed. Herman McConnell, Robinson, Illinois.

EXCELLENT CAUCASIAN QUEENS at reasonable prices, each 75c; 10 or more 65c each. Golden West Apiaries, Manteca, California.

EXTRA YELLOW Italian queens that produce bees a little more yellow than three-banded; more gentle and just as good workers. Untested 75c each; tested $1.50 each. Health certificate and satisfaction. Hazel V. Bonkemeyer, Randleman, N. C., Route 2.

LOOK—Three banded Italian bees and queens of fine quality. They are fine honey gatherers. A trial order will convince you. Alamance Bee Co., Geo. E. Curtis, Mgr., Graham, N. C.

READY April 10th, CARNIOLANS, CAUCASIANS—package bees and queens. 2-lb. pkg. $2.00, 3-lb. pkg. $2.50; untested queens 50c each, any number. Prompt shipment. Safe arrival. Tillery Brothers, Rt. 4, Box 132, Greenville, Alabama.

GOLDEN ITALIAN QUEENS, golden to the tip, 50 cents. Loehrs Breeding Farm. Caldwell, Texas.

CAUCASIAN PACKAGE BEES. Reduced price but same high quality, long-tongued, gentle, prolific, dependable workers. 2-pound package with queen $2.00; 3-pound package with queen $2.50. No discount. Safe arrival and satisfaction guaranteed. P. B. Skinner Bee Co., Greenville, Alabama.

ITALIAN BEES (three band) 60 cents lb. Queens 60 cents. Service and quality guaranteed. Shipping point Epes, Alabama. Little Brothers, Sumterville, Alabama.

GIDDINGS' QUEEN APIARIES. Specialized production of best of queen bees—Italian, Caucasian, Carniolan, Cyprian, and Austrian. Also pure desert honey. Ennis M. Giddings, Riverside Co., Blythe, California.

PACKAGES WITH QUEEN INTRODUCED prevent supersedure and loss of queens. Free folder tells their advantages over others and how we do it. A. O. Smith, Mount Vernon, Indiana.

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Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

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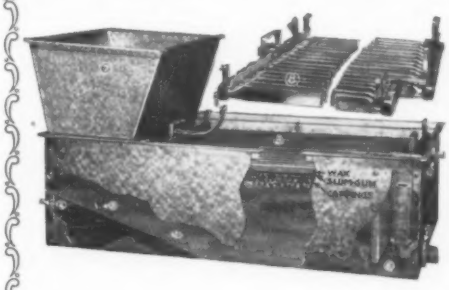
MISCELLANEOUS

"MICHIGAN BEEKEEPER" is the "newsy" magazine. Published monthly. 75c a year, 2 years $1. Send 10c for single copy. MICHIGAN BEEKEEPER, 406 E. St. Joseph Street, Lansing, Michigan.

CARTONS for Cut Comb Honey. New attractive designs with your name and address. Low prices. Fast service. Samples on request. May Carton Co., Box 257, Traverse City, Mich.

THE BEE WORLD—The leading bee journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents, stamps. Membership of the Club, including subscription to the paper 10/6. The Apis Club, The Way's End, Foxton Royston, Herts, England.

IN THE MID-WEST it's Inland Poultry Journal, one year 25 cents, three years 50 cents. Printcraft Bldg., Indianapolis, Indiana.



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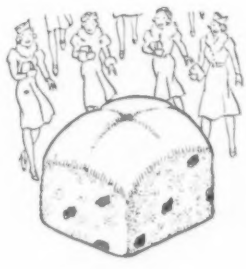

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Try pecan buns of honey
Special all week, this sweet yeast pastry
Good, rich and delightfully tasty.

❖ ❖ ❖ ❖

Pecans, honey and spices were foods for the ancients. We've taken these priceless ingredients and combined them with a modern, tender, sweet-yeast raised dough to create one of the finest culinary masterpieces that money can buy. They're special all this week.

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Bakers' Review will send mats of this advertisement and of other similar ones, free, to any bakery owner anywhere, upon request. They are made to fit any newspaper. Ask your baker to write us about it.

American Honey Institute ∴ Madison, Wisconsin

ADVERTISING PAGES REMOVED

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From imported stock. Leather colored Italian queens and bees. Write for our special prices. Cypress hives, frames and supers at bargains. Can make shipment on bees and queens around the fifteenth.

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Buy your Italian Bees & Queens from

Alabama Apiaries, Mt. Pleasant, Ala.

2-lb. with queen, $2.00; 3-lb., $2.50
Queens, 65c each

Italian Bees & Queens

QUEENS 45c ea.

PER HUNDRED $40.00

Reliable and Dependable—Since 1924

GULF COAST BEE CO.

SCHRIEVER, LOUISIANA

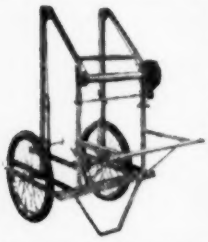
Mott's Northern Bred Italians

19 years, Queens sent yearly to Alabama to rear April Queens.

From Alabama yard package bees, 3-pounds with loose queen, $3.15. 2-pound, $2.45.

Queens, March reared, April, May, $1.00 each or 3 for $2.50. June, July, $1.00; 2 or more 75c each. Guaranteed pure mated or replaced.

E. E. MOTT, Glenwood, Mich., U. S. A.



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Save back breaking work on that big crop.

Save stirring up your producing colony.

Write for full details.

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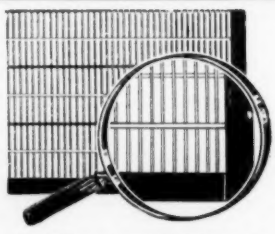
Bad Axe, Mich.



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Practical, quick frame lifter and holder. Price $1.00. Scraper for quick clean work. Price $1.00 **or the two for $1.50.**

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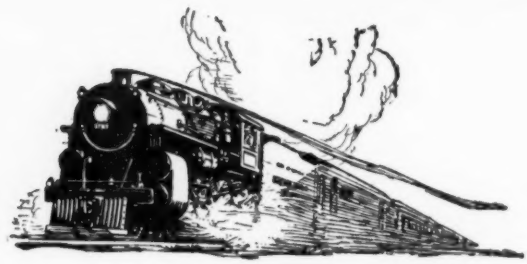

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ONE OF THE THREE QUEENY ARDS OF THE OVERBEY APIARIES, BUNKIE, LOUISIANA.

ITALIAN BEES AND QUEENS

PRICES:
2-pound package with Queen . . . $1.75
3-pound package with Queen . . . 2.35
Extra Queens, each, ...50

OVERBEY APIARIES ❖ ❖ BUNKIE, LOUISIANA

True Label Characters

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- **Colors that Blend and Please.**
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Our Labels and Selling Helps meet these requirements at very reasonable prices.

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American Bee Journal
Hamilton, Ill.

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Young Laying Queens, ea. 50c 10 or more 45c ea.

Queens mailed daily from Paducah.
Write for prices on 25 or more.

2-lb. pkg. with young laying queen, $2.00
10 or more, as above $1.85
3-lb. pkg. with young laying queen, $2.50
10 or more, as above $2.40

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Package Bees **Popular Low Prices** **Queen Bees**

on Berry's Reliable Italian Bees after 45 years of Selective Breeding

PRICES AFTER MAY 12th

	1 to 10	10 or more		1 to 10	10 or more
2-lb. Pkg. with Queen	**$1.55 ea.**	**$1.50 ea.**	**Untested Queen Bees**	**55c ea.**	**50c ea.**
3-lb. Pkg. with Queen	**$2.10 ea.**	**$2.00 ea.**	**Tested Queen Bees .**	**$1.05 ea.**	**$1.00 ea.**

Each additional pound of bees 50c

Safe arrival and satisfaction we guarantee. Directions telling how to handle and a Certificate of Health accompany each shipment. Wings of queens clipped on request.

THE SOUTH'S OLDEST ACTIVE SHIPPERS OF PACKAGE BEES.

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FINEST ITALIAN PACKAGE BEES AND QUEENS

FOR MAY PRICES — FIGURE THE DISCOUNT

From one of Alabama's Largest Commercial Shippers.

A large supply—Full weight—Fast service—Light shipping crates—Finest quality —Personal attention.

2-lb. pkg. with queen, each	$1.75	2-lb. pkg. **without queen**, ea.	$1.25	Queens, each	50c
3-lb. pkg. with queen, each	$2.25	3-lb. pkg. **without queen**, ea.	$1.75	Each additional pound of bees	50c

10 per cent discount to wholesalers and dealers. Health certificate furnished.

HOLDER APIARIES :: CITRONELLE, ALABAMA

THE POSTSCRIPT

Prof. V. G. Milum reports honey from mountain mint at Paris, Illinois. Similar reports come from Missouri. This plant, also called basil, is apparently a very good source of nectar but is no longer sufficiently plentiful to amount to much in this region. In some of the southeastern states it is probable that it is more important.

♦

Carl G. Rhapstock, of Plainfield, Wisconsin, says that for ten years there has been a close relationship between honey prices and prices of package bees. He states that during this time the price of three, two-pound packages has been about equal to the price of a case of 120 pounds of extracted honey.

♦

In 1938 N. Pankiw, of Dufrost, Manitoba, built a pavilion in which to winter 250 colonies of bees. He reports that they come through better than in the bee cellar. The whole building is insulated and temperature can be kept constant. The greatest advantage appears to be in the spring build-up. He reports that he is able to produce bees here at a cost as low as they can be bought in the South and avoid risk and losses of shipment. It will be interesting to know more about this experiment after it has been put to further test. Many of our readers would like to know details of the construction of the building and whether bees are kept in darkness or permitted to fly within the enclosure.

♦

Vernon K. Gould, of Gorham, Maine, is one beekeeper who is in politics this year. He is a candidate for the legislature. More beemen in public office might be to the general advantage. From the bees they learn something of economy, industry and thrift, qualities which are much needed just now.

♦

Edmond Fontaine, of Ruxton, Maryland, suggests that by painting the under side of the bottom bars with aluminum paint we can discourage burr combs. I wonder whether the paint will make any difference. Who knows?

♦

It is interesting to note that the best source of honey in Louisiana over a large area from Baton Rouge to New Orleans is a blue vervain which was introduced to the region only a few years ago. **Verbena bonariensis** is a perennial native to South America in Southern Brazil and Argentina. In this country it seems first to have been observed in Mobile County, Alabama, in July 1893. Since that time it has become common along roadsides and waste places of the Gulf Coast region, much to the advantage of the beekeepers.

♦

The anise-hyssop, **(Agastache anethiodora)** mentioned in the report of our honey plant test garden on page 71 of the February issue, is a very fragrant plant. From it the Indians made a drink similar to the white man's tea. Had the white settlers adopted this drink instead of one from the Orient it might now be cultivated in large acreage much to the advantage of the beekeeper. It appears to be among the best of native honey sources.

♦

A correspondent who is well acquainted in Germany advises me that sugar is selling in that country at an equivalent of about 16 cents per pound while honey brings about 80 cents. Germany was formerly a very good customer for American honey and bought a large portion of our surplus. If present trade restrictions could be removed the American beekeeper could readily exchange his honey for German manufactured goods at a very favorable price.

♦

C. B. Howard, of Geneva, New York, reports that his bees worked soy beans heavily in some yards where the plants were grown on light gravelly soil and brought in honey very fast. In neighborhoods where clay soils prevail the bees failed to work the soy beans. This agrees with other reports that have come to us which indicate that soy beans yield nectar when grown on light soils. Reports of others who have secured honey from this source will be appreciated.

♦

Mention has been made on this page of the research by Dr. J. Russell Smith for honey locust trees which yield large pods rich in sugar. Dr. Smith has found trees whose pods have more than thirty per cent of sugar. They are very nutritious and are greedily eaten by cattle. Now the Sunny Ridge Nursery, of Swartmore, Pennsylvania is propagating these trees for planting in pastures to provide additional forage for livestock. It is thought also that eventually it may be found possible to extract sugar from this source. The development of this project will be watched with great interest by the beekeepers since the general planting of the honey locust tree would provide much additional bee pasture.

♦

There has recently been some agitation about raising perilla in this country to provide oil now imported from other countries. Since this plant has already become established as a roadside weed in some sections of the South through accidental importation there should be no great difficulty in growing it as a crop under suitable conditions. Dr. Oertel reports that the bees get honey from the wild plants in some places in Louisiana.

♦

In an old copy of Illustrated Bee Journal published at Indianapolis in 1870, we read that Ohio Beekeepers Association was organized in 1859. It would be interesting to know whether the present organization has been in continuous existence since that time or whether it is a different society. Much of the early history of state organizations has been lost. It is very difficulty to learn which is the oldest association of beekeepers still active.

♦

If your neighbor complains of corns on his feet, suggest that he try the old remedy, "propolis" for relief. I have no corns so cannot try it myself but I would like to know whether there is any virtue in warm propolis spread over the offending corn as advised by the old timers.

♦

Now that the war is cutting off the supply of some of our drug plants which come from Europe, it would seem to be a good time to start cultivating them in this country. The beekeeper who owns suitable land may find it profitable to cultivate drug plants which are also the source of bee pasture. We import more than a million dollars' worth of menthol from Japan each year. Menthol is distilled from mint plants which are also good honey plants and which will grow very well in this country. In American markets the wholesale price of dried leaves of peppermint has recently been about 30 cent per pound. The United States Department of Agriculture has issued a bulletin, Farmers Bulletin 1555 on "Peppermint and Spearmint as Farm Crops."

FRANK C. PELLETT.